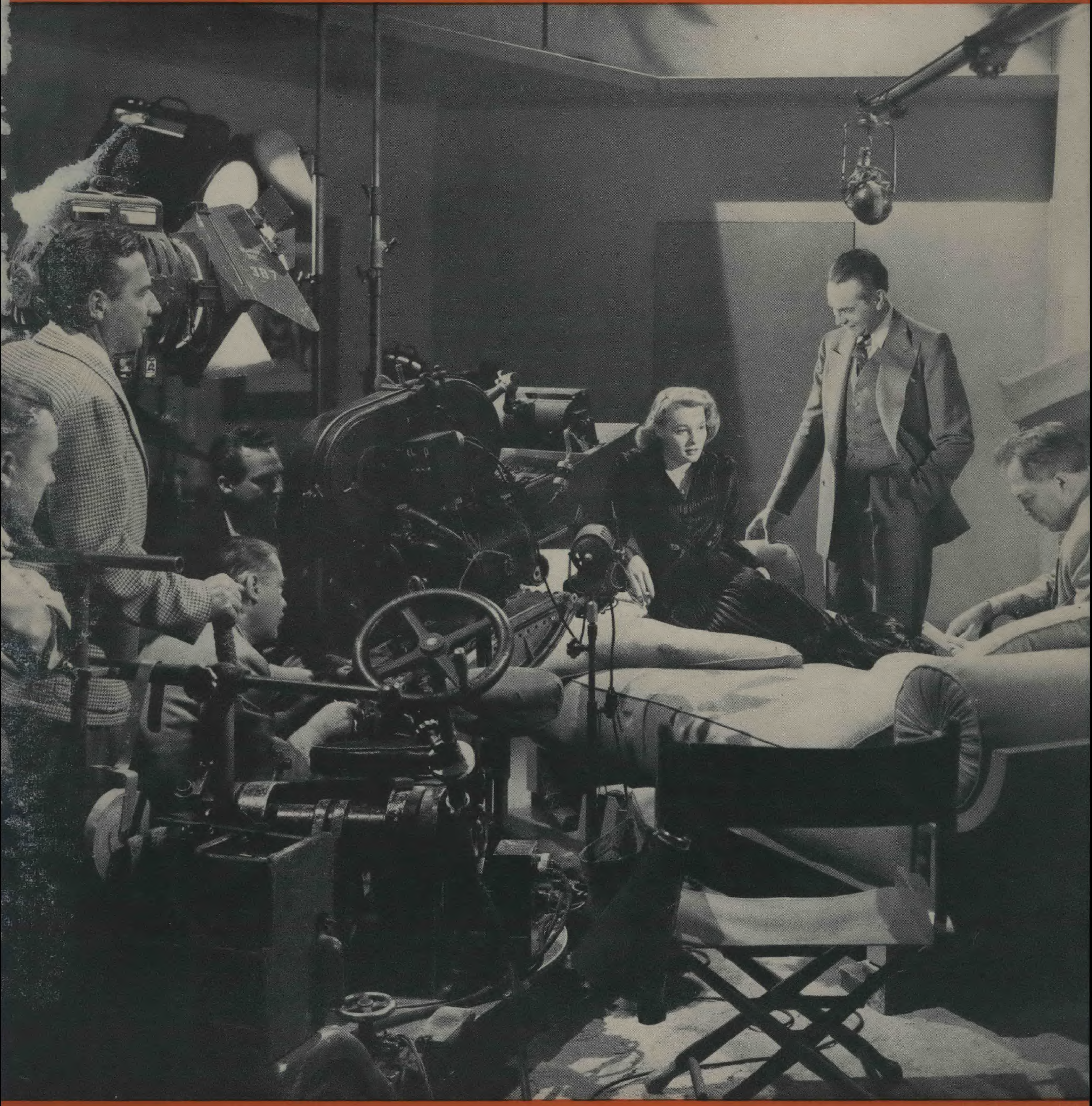
AMERICAN

25c

$3.00 YEARLY IN U. S.

Cinematographer



NEW . . . this month!

TELEVISION PHOTOGRAPHY SECTION

MARCH
1949

DU PONT "SUPERIOR" 2 is an all-purpose negative rawstock that readily meets the requirements of leading cinematographers. It has extremely wide latitude and ample speed for correct exposures under adverse conditions of high- or low-key lighting. Approved for its uniformity of quality. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department, Wilmington 98, Delaware.

New York—Los Angeles—Chicago

DU PONT MOTION PICTURE FILM

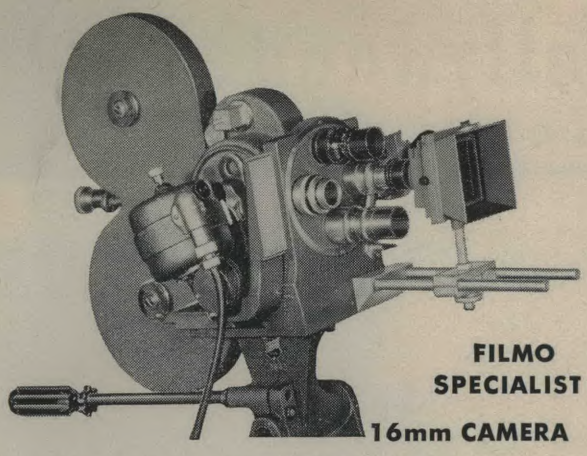
DU PONT
REG. U. S. PAT. OFF

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Tune in Du Pont "CAVALCADE OF AMERICA"
Monday nights—NBC Coast to Coast

Matched TO YOUR NEEDS FOR

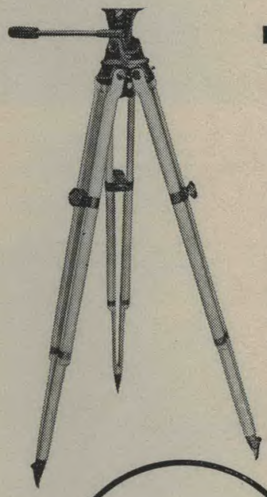
★ NEWSREELS
★ TELEVISION
★ INDUSTRIAL
FILMS



FILMO SPECIALIST 16mm CAMERA

Four-lens turret head. Seven accurate operating speeds. Positive viewfinder. Uses 200- or 400-foot external film magazines or (internally) 100-ft. film spools. Shift-over focusing. Three power sources: hand crank, spring motor, and electric motor. Write for brochure with full specifications.

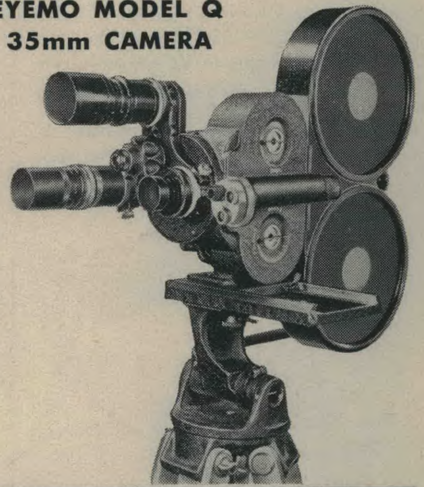
Shooting



HEAVY-DUTY TRIPOD

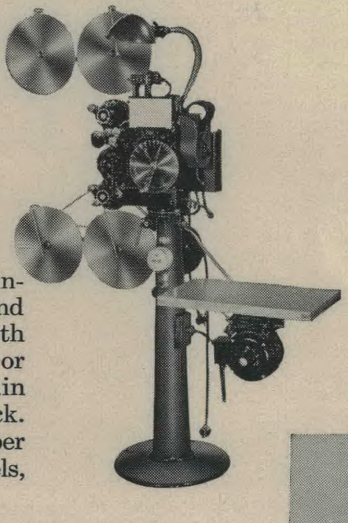
Telescoping maple legs extend to 63″. Continuous 360° panoramic head accommodates any flat-base motion picture or still camera. Head tilts perpendicular to ground and 40° upward with 400′ magazines . . . 60° upward without magazines. Two-directional spirit level. Tilt mechanism locks with slight turn of rubber grip handle.

EYEMO MODEL Q 35mm CAMERA



Has three-arm offset turret, positive viewfinder, speed range 8 to 48 frames per second. Hand crank and prismatic focuser with magnifier (for viewing through lens). Provision for electric motor and external film magazines. Other Eyemo models to suit your needs.

Processing and Editing



MODEL J CONTINUOUS 16mm FILM PRINTER

Three-way aperture for continuous contact printing . . . sound and picture separately or both together . . . monochrome or color film. Prints fine-grain duplicating and release stock. Minimum speed, 60 feet per minute. Many other models, details on request.

AUTOMATIC FILM SPLICING MACHINES

For every special need in professional film editing, B&H provides seven versatile 35mm splicing machines, all fully automatic. Film-strong welds are inconspicuous, are easily, quickly made. Other professional models for 8mm and 16mm, or all three widths in one machine. Write for descriptive booklet.

GUARANTEED for LIFE

During life of product, any defects in workmanship or material will be remedied free (except transportation).

Precision-Made by

Bell & Howell

Since 1907 the Largest Manufacturer of Professional Motion Picture Equipment for Hollywood and the World

---

FOR DETAILS *on anything in motion picture equipment, write Bell & Howell Company, 7148 McCormick Road, Chicago 45.*

Auricon-Pro

16mm Sound-On-Film Camera

. . . Designed in Hollywood for the discriminating movie maker. Camera priced from $1095.00, complete with amplifier, microphone, tubes, batteries, headphones and instructions.

Prompt delivery... see your dealer or write today for further information.

★ ★ ★ ★ ★ ★ ★ ★ ★

Dual Phono-Turntable...

★ ★ ★ ★ ★ ★ ★ ★ ★

Pan-Tilt Head Professional Tripod...

★ ★ ★ ★ ★ ★ ★ ★ ★

Portable Power Supply Unit...

★ ★ ★ ★ ★ ★ ★ ★ ★

Velocity Microphone...

★ ★ ★ ★ ★ ★ ★ ★ ★

Auricon Hollywood

RCA Licensed

Guaranteed One Year

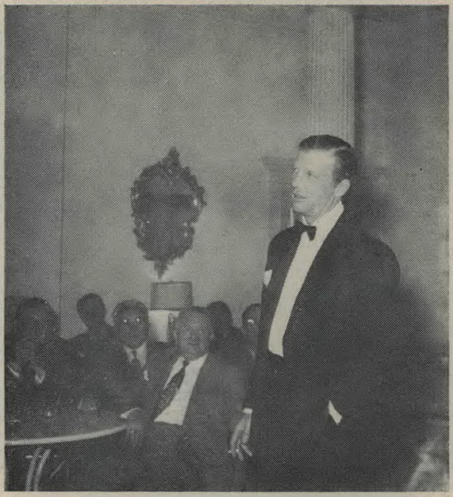
BERNDT-BACH, Inc.

7381 Beverly Blvd., Los Angeles 36, Calif.

MANUFACTURERS OF SOUND-ON-FILM RECORDING EQUIPMENT SINCE 1931

Hollywood
Bulletin Board

PETER MOLE, A.S.C., in recognition of his contributions in development of studio lighting equipment, was tendered certificate of appreciation by Charles G. Clarke, A.S.C., in behalf of members of American Society of Cinematographers. Occasion was Society's recent 30th Anniversary celebration.



SCREEN LUMINARY, Dan Dailey was guest of honor at A. S. C.'s 30th Anniversary dinner, spoke humorously of his experiences with various A. S. C. members with whom he has worked.

CELEBRATING THIRTIETH Anniversary of founding of the Society of American Cinematographers, members of the A. S. C. gathered at the Society's clubhouse in Hollywood the evening of February 14th for dinner and to be entertained by various personalities including Dan Dailey, 20th Century-Fox screen star. Dailey recounted his experiences since entering films, and "rolled 'em in the aisles" with humorous anecdotes of his experiences with various studio executives and directors of photography.

Peter Mole, of Mole-Richardson Company, was presented with an attractive Certificate Of Appreciation tendered him by members of the A. S. C. in recognition of his outstanding contributions in the development of lighting equipment for cinematography.

Event also marked the Society's annual March of Dimes fund raising in which members contributed generously to this worthy cause.

Making his initial appearance at the clubhouse since becoming an associate member, was Mr. H. W. Remerschied, of the Bell & Howell Company, to whom members are indebted for providing the excellent Filmosound 16mm. projection facilities for the A. S. C.'s new projection booth.

Renewing acquaintances and swapping stories was the indefatigable Leon Shamroy, A.S.C., the Society's former president, who recently returned from Italy where for more than a year he directed the photography on 20th Century-Fox's "Prince Of Foxes."

•

BRITISH SOCIETY of Cinematographers was initially launched at an inaugural luncheon January 29th in London according to Jack Cardiff, A.S.C. Freddy Young was installed as president of the Society which numbers 55 members. President Charles G. Clarke of the A. S. C., in behalf of members of the American Society of Cinematographers, sent the British group a congratulatory cablegram on the occasion of their first meeting.

•

JOHN DORED, A. S. C., is stationed in Berlin where he is active as one of Paramount's newsreel cameramen. The 'hottest news spot in the world today," Dored terms it.

•

GEORGE MANDL, A. S. C., will shortly fly to Venezuela where he will photograph a series of pictures for the Princeton Film Center to be directed by Gunder von Fritsch.

•

(Continued on Page 108)

. . . making way for tomorrow

THE STUDY of television's photographic and lighting needs presently being undertaken by the American Society of Cinematographers is typical of this organization's alert and forthright aims in aiding the motion picture industry to embrace a new and highly promising phase of picture making.

It is a foregone conclusion that the television of tomorrow will consist mainly of filmed programs and that Hollywood studios will supply the bulk of these films. Early use of films on video demonstrated that not every kind of film is acceptable for the medium; that films will have to be specifically made for television, films involving different lighting techniques and, especially, careful control over quality of the projection prints.

The A. S. C.'s present efforts toward exploring television's film needs and in developing a filming technique beneficial to electronics engineers and the film industry alike is a laudable effort that deserves the wholehearted cooperation of both industries.

—A. E. G.

* * *

* * *

AMERICAN SOCIETY OF CINEMATOGRAPHERS

OFFICERS AND BOARD OF GOVERNORS

CHARLES G. CLARKE, President
FRED W. JACKMAN, Exec. V-Pres. and Treas.
ARTHUR EDESON, First Vice-President
ALFRED L. GILKS, Second Vice-President
WILLIAM V. SKALL, Third Vice-President
RAY RENNAHAN, Secretary
JOHN W. BOYLE, Sergeant-at-Arms
John Arnold
Sol Polito
George Folsey
Charles Rosher
Lee Garmes
John Seitz
Leon Shamroy
Joseph Walker

ALTERNATE BOARD MEMBERS

Milton Krasner
Sol Halprin
Arthur Miller
Hal Mohr
Joseph Ruttenberg

AMERICAN
Cinematographer
THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

ARTHUR E. GAVIN, *Editor*
Technical Editor, EMERY HUSE GLENN R. KERSHNER *Art Editor*
Circulation, MARGUERITE DEURR

EDITORIAL ADVISORY BOARD: Fred W. Jackman, A.S.C., John Arnold, A.S.C. Arthur Edeson, A.S.C., Lee Garmes, A.S.C., Charles Rosher, A.S.C., Leon Shamroy, A.S.C., Fred Gage, A.S.C., Dr. J. S. Watson, A.S.C., Dr. L. A. Jones, A.S.C., Dr. C. E. K. Mees, A.S.C., Dr. V. B. Sease, A. S. C., Col. Nathan Levinson.

Editorial and Business Office: 1782 N. Orange Dr., Hollywood 28, Calif.
Telephone: GRanite 2135

VOL. 30 MARCH • 1949 NO. 3

CONTENTS

ARTICLES

1948 NOMINEES FOR ACHIEVEMENT AWARDS 81
THE RED SHOES—*By Herb Lightman* 82
FIRELIGHT THAT'S REAL—*By Frederick Foster* 84
A NEW VEST-POCKET COLOR TEMPERATURE METER—*By Captain Don Norwood* . . . 85

TELEVISION PHOTOGRAPHY

A. S. C. INAUGURATES RESEARCH ON PHOTOGRAPHY FOR TELEVISION—*By Victor Milner, A.S.C.* . . 86
THE CINEMATOGRAPHER'S PLACE IN TELEVISION—*By John DeMos* . . 87
NEW LENS TESTING METHOD MAY IMPROVE TV PICTURE QUALITY—*By R. B. Hartwell* . . . 88
OFF THE KINESCOPE TUBE 103

16MM. AND 8MM. CINEMATOGRAPHY

SYNCHRONIZED SOUND FOR HOME MOVIES—*By Bernarr Wixon* . . 91
AN AMATEUR WITH PROFESSIONAL IDEAS—*By Arthur Rowan* . . . 92
PLANNING THE 16MM. COMMERCIAL FILM—*By Charles Loring* . . . 94

FEATURES

HOLLYWOOD BULLETIN BOARD 76
CURRENT ASSIGNMENTS OF A. S. C. MEMBERS 78
CINE KINKS 96
25 YEARS AGO WITH A. S. C. AND MEMBERS 98
BOOKS YOU'LL WANT TO READ 104
WHAT'S NEW IN EQUIPMENT, ACCESSORIES, SERVICE 109

ON THE COVER

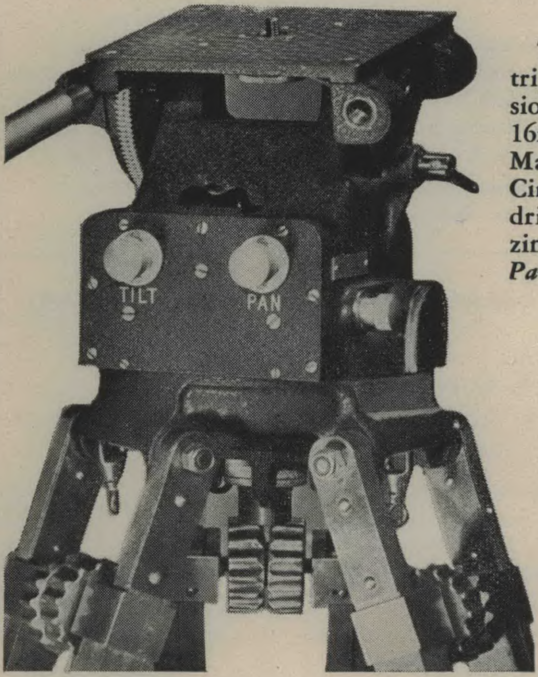
ROBERT BURKS, A.S.C. (directly behind camera), shoots a closeup for Warner Brothers' production "The Fountainhead." From left to right are: Earl Ellwood, Len South, James Bell, Robert Burks, Patricia Neal, Raymond Massey and King Vidor.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1949 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

Introducing the **"PROFESSIONAL JUNIOR"**

SMALL GYRO TRIPOD

It is no longer necessary to use a large, heavy tripod for your 16mm. professional and semi-professional cameras

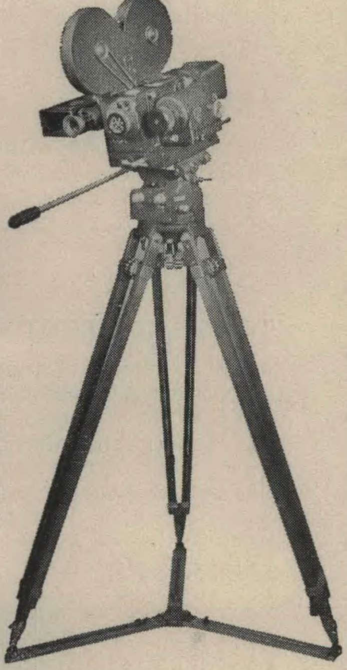


This new, small size GYRO tripod handles all 16mm. professional type cameras: Mitchell 16mm; Auricon single system; Maurer 16mm.; motor-driven Cine Special; also 35mm. motor-driven Eyemo with 400′ magazine. It features *Super Smooth Pan & Tilt Action.*

Positive pan-locking knob. Tilt locking lever. Quick wrist action locking knob for leg height adjustments. Pan handle can be inserted at 3 different positions on tripod head for operator's convenience or extreme tilt work. Legs are hard maple specially treated and warp resistant. Tripod head is Dow Metal magnesium and aluminum. Built-in spirit level. Swivel tie-down rings. Platform can be equipped for either ⅜ or ¼ in. camera screw.

Write for further details.

FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY NEW YORK CITY



TELEVISION PHOTOGRAPHY is regularly covered in some phase in every issue of AMERICAN CINEMATOGRAPHER. If you are interested in television photography or cinematography for films for television, don't miss a single issue of the AMERICAN CINEMATOGRAPHER. Subscribe today, using postage-paid order form enclosed with this issue. $3.00 yearly in U. S.

AMERICAN CINEMATOGRAPHER, 1782 No. Orange Dr., Hollywood 28, Calif.

EVERYTHING PHOTOGRAPHIC

AND CINEMATIC

FOR PROFESSIONAL AND AMATEUR

The World's Largest Variety of Cameras and Projectors. Studio and Laboratory Equipment with Latest Improvements as Used in the Hollywood Studios. New and Used. BARGAINS.

HOLLYWOOD CAMERA EXCHANGE

1600 CAHUENGA BOULEVARD
HO-3651 • Hollywood, Calif • Cable Hocamex

CURRENT ASSIGNMENTS OF A.S.C. MEMBERS

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★ ★ ★ ★ ★ ★ ★ ★

Columbia

• CHARLES LAWTON, JR., "Tokyo Joe," (Santana Prodn.) with Humphrey Bogart, Florence Marley, Alexander Knox, Sessue Hayakawa. Stuart Heisler, director.

• SOL POLITO, "Anna Lucasta," (Security Pictures) with Paulette Goddard, Broderick Crawford, Bill Bishop, and Oscar Homolka. Irving Rapper, director.

Independent

• LEE GARMES, "Roseanna McCoy," with Farley Granger, Joan Evans, Charles Bickford and Raymond Massey. Irving Reis, director.

M-G-M

• ROBERT PLANCK, "Madam Bovary," with Jennifer Jones, Louis Jordan, James Mason and Van Heflin. Vincent Minnelli, director.

• JOE RUTTENBERG, "Forsyte Saga," with Greer Garson, Errol Flynn, Walter Pidgeon, Robert Young and Janet Leigh. Compton Bennett, director.

• HAROLD ROSSON, "Any Number Can Play," with Clark Gable, Alexis Smith, Wendell Corey, Audrey Totter and Frank Morgan. Mervyn LeRoy, director.

• ROBERT SURTEES, "That Midnight Kiss," with Kathryn Grayson, Mario Lanza, Jose Iturbi and Keenan Wynn.

• JOHN ALTON, "Border Incident," with George Murphy, Ricardo Montalban and Howard DaSilva. Anthony Mann, director.

• PAUL VOGEL, "Scene Of The Crime," with Van Johnson, Gloria DeHaven, Tom Drake and Arlene Dahl. Ray Rowland, director.

• GEORGE FOLSEY, "Operation Malaya," with Spencer Tracy, James Stewart, Lionel Barrymore, Sydney Greenstreet, John Hodiak and Gilbert Roland. Richard Thorpe, director.

• HARRY STRADLING, "Intruder In The Dust," with Claude Jarman, Jr., Clarence Brown, director.

• ROBERT PLANCK, "The Red Danube," with Walter Pidgeon, Peter Lawford, Ethel Barrymore, Janet Leigh, and Angela Lansbury. George Sidney, director.

Paramount

• STUART THOMPSON, "Dear Wife," with William Holden, Joan Caulfield, Billy deWolfe, Mona Freeman and Edward Arnold. Richard Haydn, director.

• DANIEL FAPP, "Red, Hot and Blue," with Betty Hutton, Victor Mature, June Havoc and William Demarest. John Farrow, director.

• CHARLES LANG, "Rope Of Sand," (Hal Wallis Prodn.) with Burt Lancaster, Paul Henreid, Claude Rains and Peter Lorre. William Dieterle, director.

• GEORGE BARNES, "Thelma Jordan," (Hal Wallis Prodn.) with Barbara Stanwyck, Wendell Cory and Paul Kelly. Robert Siodmak, director.

• JOHN SEITZ, "After Midnight,' with Alan Ladd and Wanda Hendrix. Mitchell Leisen, director.

(Continued on Page 108)

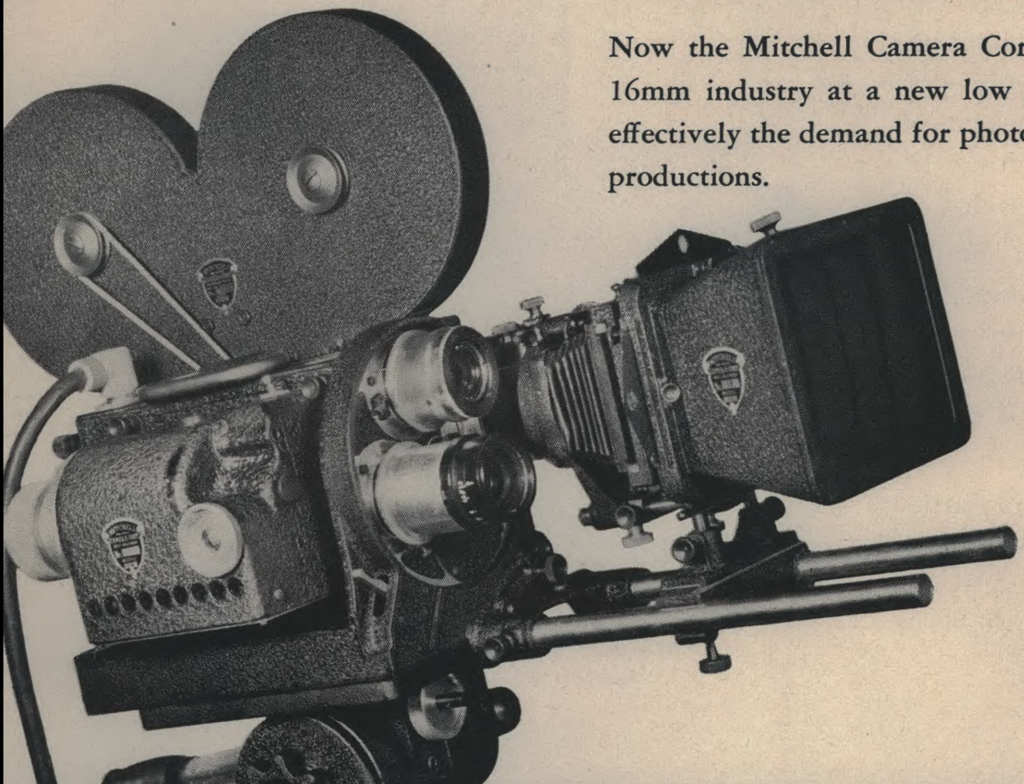
Biggest News of the Year

MITCHELL* 16 AVAILABLE NOW AT NEW LOW PRICE

Improved manufacturing methods, to meet the ever-increasing demand for the Mitchell "16" Professional Camera, have made this important announcement possible. Without changing its design or eliminating any of its famous time-proven features, the camera is now priced within the reach of every commercial motion picture producer.

The Mitchell "16" is the first professional camera to bring truly professional quality to the 16mm screen. Behind it lie 30 years of experience in building motion picture cameras to the most exacting requirements. Endorsements from leading commercial producers prove our claim — that the Mitchell "16" Professional is the world's finest 16mm camera.

Now the Mitchell Camera Corporation offers this great camera to the 16mm industry at a new low price to enable more producers to meet effectively the demand for photographic perfection in today's commercial productions.



Just off the Press...

. . . A New PRICE LIST contains complete listing of all Mitchell 16mm equipment to make your ordering more convenient. Write or call for your copy today.

PRICE LIST

Mitchell
16mm MOTION PICTURE
Camera

Mitchell Camera CORPORATION

666 WEST HARVARD STREET • DEPT. FW-8 • GLENDALE 4, CALIFORNIA • CABLE ADDRESS: "MITCAMCO"
EASTERN REPRESENTATIVE: THEODORE ALTMAN • 521 FIFTH AVENUE • NEW YORK CITY 17 • MURRAY HILL 2-7038

20 years ahead

IN DESIGN

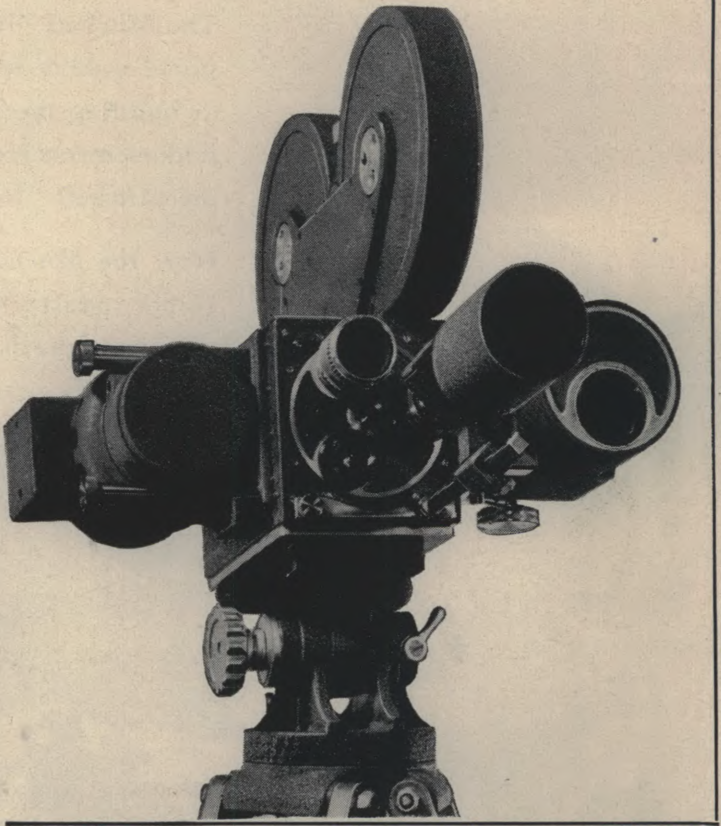
The last two decades have seen many important advances in motion picture film quality, processing methods and production techniques.

Yet during that period only one completely new professional motion picture camera has been designed — new in its whole concept.

It is solely in the postwar Maurer Professional 16-mm that there are — built into the design — *all* the facilities required to take full advantage of all the developments and improvements achieved since the nineteen-twenties.

With Maurer equipment, not only is it possible, but it is definitely practicable to make 16-mm originals which in every respect compare favorably with 35-mm reductions. And this can be done at substantial savings, both in cost and in convenience.

The many exclusive features of the new Maurer Camera are described and illustrated in the recently issued catalogue of Maurer 16-mm equipment, a copy of which will be furnished on request.



Maurer 16-mm Professional Motion Picture Camera

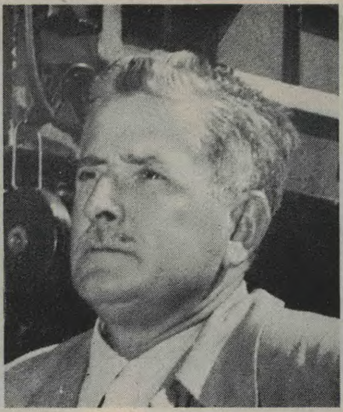
16mm maurer

J. A. MAURER, INC.

37-07 31st Street, Long Island City 1, N. Y.

Professional Motion Picture Cameras and Recording Equipment for the Production of Industrial, Educational and Training Films

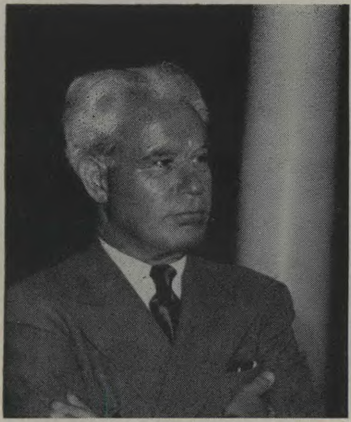
JOSEPH AUGUST (Deceased)
"Portrait of Jennie"



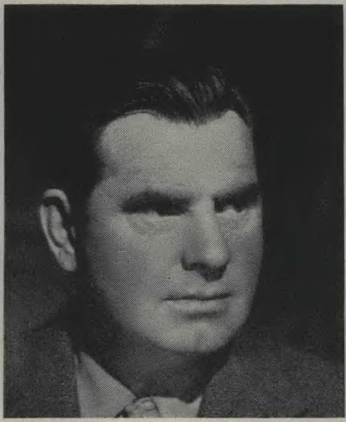
WILLIAM DANIELS, A.S.C.
"The Naked City"

CHARLES B. LANG, A.S.C.
"A Foreign Affair"

TED McCORD, A.S.C.
"Johnny Belinda"

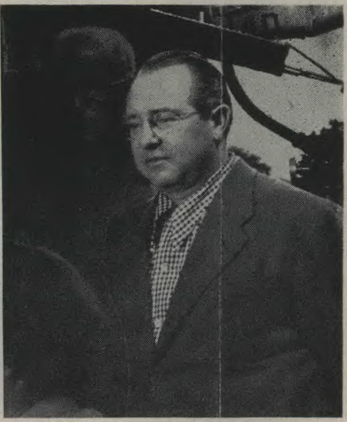


NICK MUSURACA, A.S.C.
"I Remember Mama"



CHARLES G. CLARKE, A.S.C.
"Green Grass of Wyoming"

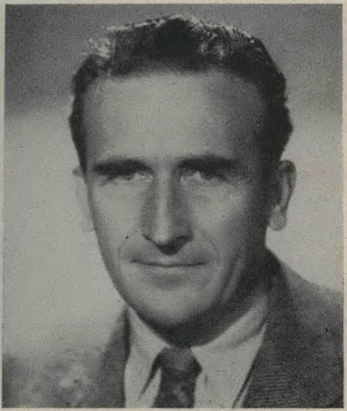
ROBERT PLANCK, A.S.C.
"The Three Musketeers"



WILLIAM SNYDER, A.S.C.
"The Loves of Carmen"

JOSEPH VALENTINE, A.S.C.
"Joan of Arc"

WM. V. SKALL, A.S.C.
"Joan of Arc"



WINTON HOCH, A.S.C.
"Joan of Arc"

1948 NOMINEES for achievement awards in cinematography

ELEVEN directors of photography representing nine outstanding motion pictures have been nominated by members of the American Society of Cinematographers and directors of photography in the Hollywood studios as contenders for Academy Awards for achievement in photography for 1948. These nominees directed the photography on five black and white and four color productions as follows:

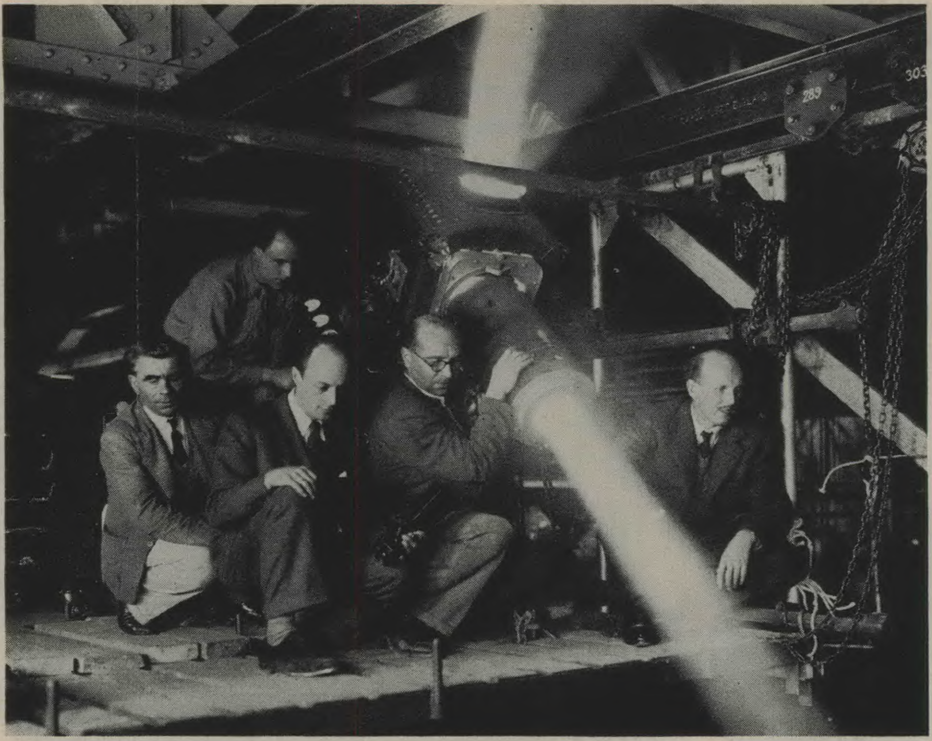
Black and White

Joseph August (deceased), "Portrait of Jennie" (Selznick),
William Daniels, A.S.C., "The Naked City" (Universal-Inter.)
Charles B. Lang, Jr., A.S.C., "A Foreign Affair" (Paramount),
Ted McCord, A.S.C., "Johnny Belinda" (Warner Brothers),
Nick Musuraca, A.S.C., "I Remember Mama" (R.K.O.),

Color

Charles G. Clarke, A.S.C., "The Green Grass Of Wyoming" (20th Century-Fox),
Robert Planck, A.S.C., "The Three Musketeers" (M-G-M),
William Snyder, A.S.C., "The Loves of Carmen" (Columbia),

(Continued on Page 98)



THIS giant, 300 amp., water-cooled arc spotlight was specially built to provide a spot of light for the brilliant Red Shoes Ballet sequence. The British Mole-Richardson Company and Taylor Hobson Cooke's engineers contributed to its design and manufacture.

The RED

By HERB LIGHTMAN

"THE RED SHOES" is a happy marriage of two great arts; the ballet and the motion picture. Produced in London, England, by "The Archers" (Michael Powell and Emeric Pressburger), who in the past brought "Stairway to Heaven" and "Black Narcissus" to the screen, it is a visually beautiful and dramatically stimulating film. A good bit of its pictorial effect is due to the outstanding Technicolor photography of Jack Cardiff, A.S.C., winner of last year's Academy award for his lensing of "Black Narcissus."

"The Red Shoes" is a backstage story of the world of the ballet, a modern romance with fairy tale overtones. It began in the mind of ace scenarist Emeric Pressburger who decided several years ago that he would like to make a film based on the Hans Christian Anderson story of the same name. The high point of the picture is a ballet interpreting the story of the girl who is bewitched by her red dancing shoes, and a direct parallel is drawn between her and the heroine of the modern story.

Powell and Pressburger who, under the name of "The Archers," comprise Britain's foremost team of creative cinema artists, decided that this ballet must be presented in an entirely new way. In its primary sense, ballet is the art of telling a story by dance and mime to a musical accompaniment. Its whole essence is fluidity, and in previous ballet films the camera had fallen somewhat short of transfering this mercurial quality to the screen.

"The Archers" decided that their ballet should be presented as a complete entity within the framework of the film. It should run for under fifteen minutes, as film audiences tend to become restless at any longer interruption of the plot. And the ballet should be filmed without any cutaway shots, so that the motion picture spectator could imagine himself actually sitting in Monte Carlo Opera House watching it on the stage.

The ballet sequence was planned long before production started on the film, and it was decided to work this sequence out first in the abstract form of the color cartoon. First the whole ballet sequence was worked out by production designer Hein Heckroth in the form of 120 full size color sketches. These were then photographed and assembled in sequence, with each separate camera angle in its proper place.

Next, composer Brian Easdale tailored his original ballet score to exactly fit the cartoon ballet. When this juxtaposition of picture and music had been okayed by choreographer Robert Helpmann and the production staff, the music was recorded by Sir Thomas Beecham and the Royal Philharmonic Orchestra. With sound and picture joined, "The Red Shoes" ballet was complete in cartoon form. The actual photography of the ballet presented a difficult challenge to director of photography Jack Cardiff, A.S.C., in that each shot had to match exactly with its cartoon counterpart, the dancers performing to a playback of Beecham's recording.

A HIGHLIGHT is the sequence in which a pile of newspapers swirl and dance, ultimately assuming the form of a man dancing in unison with the ballet star.

As each shot in the ballet was completed, it was exchanged for the corresponding cartoon scene, and the sketches slowly began to give way to live action sequences. The production staff constantly checked the composite reel to see how filming of the ballet was progressing.

In the film, the ballet of "The Red Shoes" is represented as being performed on a conventional stage—but it is so very definitely a cinematic ballet that it could never actually be performed on a theatre

SHOES

ultimate in choreophotography done in Technicolor by Jack Cardiff, A.S.C.

THE FIGURE gradually metamorphoses into a real live partner of the dancer and together they dance through a scene that is as brilliantly photographed as it was conceived.

stage. It was created to utilize the full scope and wizardry of the camera, and it does this so successfully that a new word, "choreophotography," has been coined to describe the fusing of the two separate arts.

The ballet includes an impressionistic sequence in which the camera mirrors the ballerina's subconscious mind. As she dances, the characters in the ballet identify themselves with the personalities involved in her own life. The shoemaker is synonymous with the ballet impresario who fosters her ambition as a dancer, while her lover sympolizes the young composer who wrote the music for the ballet and whom she eventually marries.

The ballet sequence is a fluid symphony of music, color and motion. It is packed full of camera effects which, however, are so smoothly executed that they rarely call attention to themselves as such. As a visual spectacle, the ballet of "The Red Shoes" is well nigh in a class by itself.

The groundwork for "The Red Shoes" was being laid while Cinematographer Cardiff was hard at work shooting "Black Narcissus." All through the filming of that production he was busily reading up on the ballet, attending performances at Covent Garden, London, and rehearsals at the Sadler's Wells school. Until then no ballet enthusiast, he slowly became imbued with the spirit of the art and began to make slow-motion tests in black and white.

"It had long been agreed that Ballet was a pure stage medium," Cardiff relates, describing the dilemma which presented itself to him. "Here was a theatre art created for viewing through a proscenium, and never intended to be seen from behind or enlarged to enormous individual close-ups and spiced up with trick shots. Yet—although the purists said that ballet must be honestly recorded without cinema stunts and cunning aids to dancers so that they could jump incredibly high with perfect *balloon*—it was agreed that just recording ballet newsreel fashion would be wrong. Otherwise, why use film?

"Having seen the tests I made we agreed that any tricks, such as slow motion, fast motion, or accentuating angles, should be so discreetly used that they would not be noticeable. Nevertheless, to interpret the choreography as though the audience was in the theatre, it was quite necessary for the camera to be a little dishonest. Strangely enough, even straightforward movements look wrong sometimes at the normal speed of twenty-four pictures per second. It proved necessary to use a little faster or slower camera speed."

In spite of Cardiff's logic in explaining his camera treatment, he still had to cope with die-hard ballet purists who objected to this subtle encouragement with the camera. "We recognize a ballerina in the theatre by her own honest dancing, unaided by tricks," they would say, "and now you can make a dancer do literally *anything*—dance on a cloud, do a hundred pirouettes in one go, make some gargantuan bounds that would make Nijinsky hysterical; yet this Olympian virtuoso might, in reality, be a third-rate dancer!"

In answer to this poser, Cardiff says: "Film adaptation of Ballet must be regarded as a separate art. The purists must not count pirouettes and question the truth of faultless execution. They must recognize the fact that just as a film can use a dummy to fall over a cliff, or a model train to crash to destruction, so it must be allowed full expression in what is a perfect subject for the abstract stylization and dream fantasy that a film can so well express."

From the technical standpoint, Cardiff was confronted with the problem of lighting huge stage and theatre areas for Technicolor photography, plus the necessity of finding a spotlight that would burn through the general set lighting to simulate an authentic stage spot effect. He

(Continued on Page 99)

CINEMATOGRAPHER Jack Cardiff is noted for his frequent friendly huddles with players during which he explains his photographic problems and secures their cooperation toward a better screen result. Crouched beside his Technicolor camera, Cardiff chats with stars Robert Helpmann, Moira Shearer and Leonide Massine.

Firelight That's Real

Lee Garmes, A.S.C., scores unusually realistic lighting effects in "Roseanna McCoy," using the Toland & Hoge electrical firelight flasher.

By FREDERICK FOSTER

THE ILLUSION of flickering light from a fireplace is something that effects men have sought to perfect for years, but it remained for the late Gregg Toland and Samuel Goldwyn's head grip, Ralph Hoge, to achieve it with an improvised lighting rig that might have been designed by Rube Goldberg. It is said to be the first gadget that actually creates the sort of light that a real fireplace produces; all the other effects used up until now produced a flickering light that lacked realism—the irregular flicker with constantly varying intensity that we really see if we study the light given off by a log fire.

Toland first used his invention in filming Goldwyn's Academy Award winner, "Wuthering Heights," and although it also was used later with equal success in "Enchantment," it has remained for Lee Garmes, A.S.C., to give this unique lighting effect its supreme test in Samuel Goldwyn's "Roseanna McCoy."

Much of the charm as well as the dramatic impact of "Roseanna McCoy" is due to the effective lighting of Garmes, who has set as a goal for this picture the most natural lighting it is possible to achieve with present-day equipment. Much of the action in "Roseanna McCoy" takes place at night or at dusk, or in the dimly lit interiors of mountaineer's cabins. Garmes has sought to keep the lighting perfectly natural at all times and devoid of any lighting license of any kind. Light is concentrated on players' faces, but it's a subtly subdued light, and there is never distracting over-illumination in the backgrounds to divert attention.

Garmes also is using "pin-point" apertures to achieve great depth of focus on all shots—something on which Toland specialized and which he had planned for this picture before he passed away. This treatment gives not only depth but brittle crispness to the scenes lit in low key—enhancing the subdued lighting by making objects stand out with greater clarity. There is less strain on the eyes in watching these scenes on the screen, too.

With so many of the interiors staged within two mountaineer's cabins, firelight naturally became the dominant problem inasmuch as "natural lighting" on these sets would mean in most instances light from the fireplace. To make this firelight appear completely natural, Garmes has brought Toland and Hoge's effects device on the sound stage and put it to use. It consists of three units, as shown in Fig. 1, —the flasher (center) and the flashing reflectors at either side. In use, the flasher may be located in some remote corner of the sound stage while the flashing reflectors are set up on or close to the set, depending upon the effect desired. The latter, shown in detail in Fig. 2, consists

(Continued on Page 106)

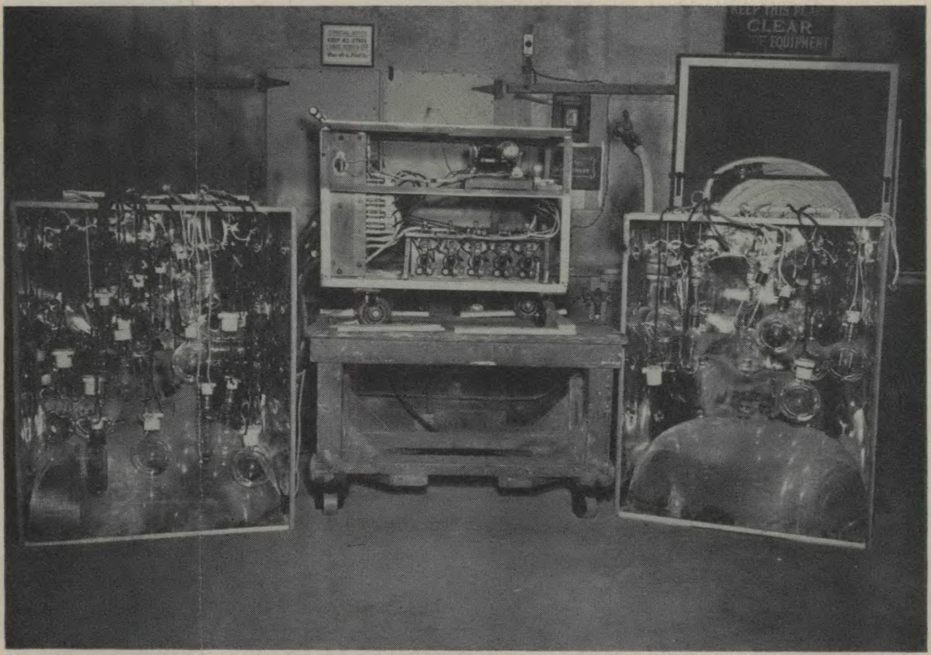


FIG. 1—This "Rube Goldberg" affair is the first really successful device for producing the true effect of firelight in motion pictures. Designed and assembled at the Samuel Goldwyn studios by the late Gregg Toland and Ralph Hoge, the unit consists of the flasher (center), and two bright metal reflecing units before which are hung twenty-four 1000- and 2000-watt lamps.

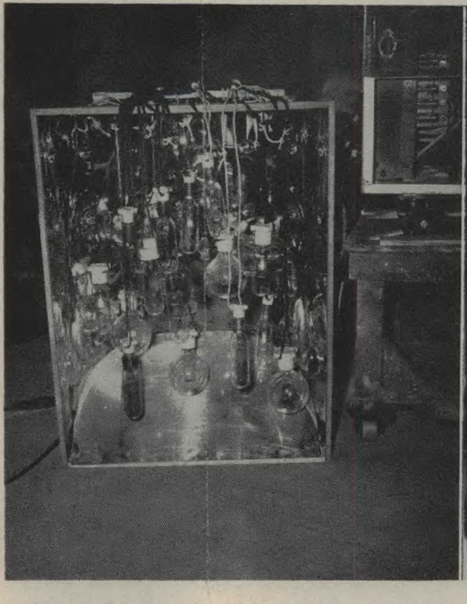


FIG. 2—The lamps are deliberately suspended at various levels in order to produce flickering light from various angles, similar to that from a fireplace. The order, frequency and duration of light flashes from the lamps may be controlled, depending upon the type of fire to be simulated.

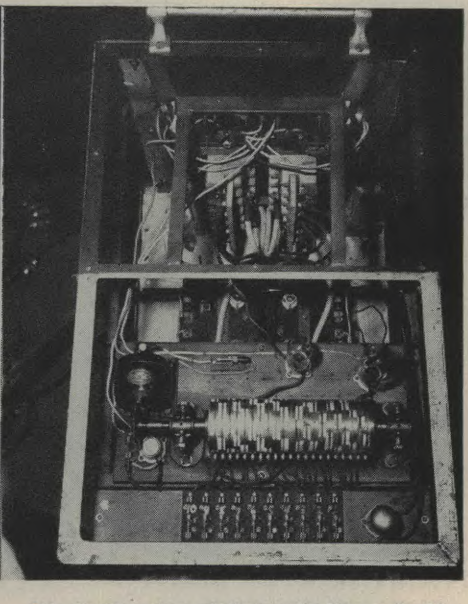
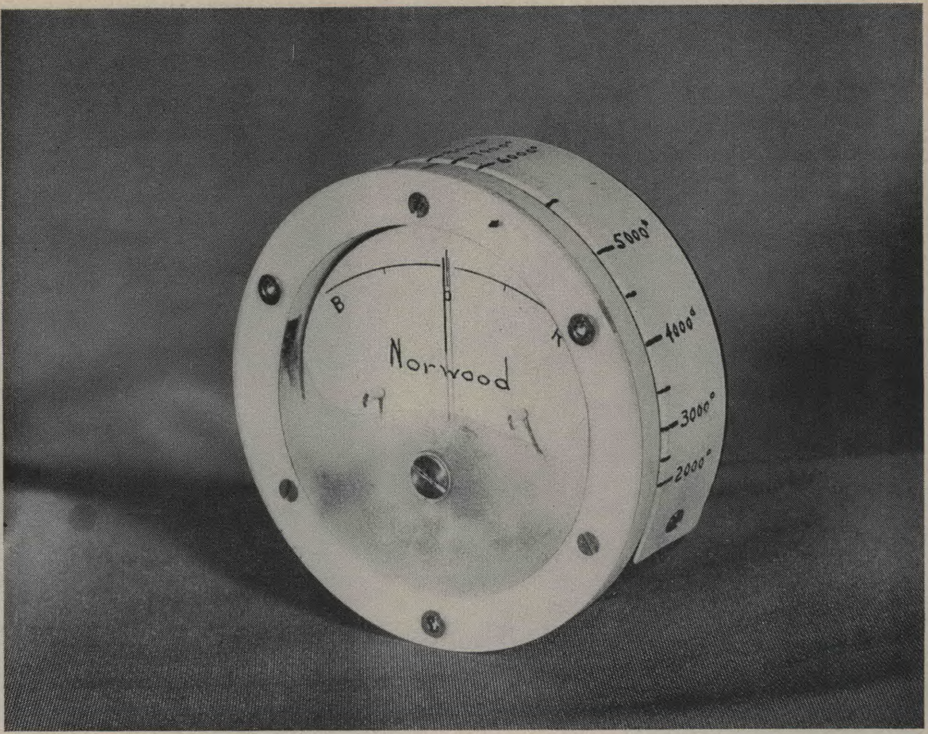


FIG. 3—Top view of flash-activating unit. At bottom is revolving cylinder with 24 contact points touching the cylinder. These excite 24 solenoids which in turn send current momentarily to the lamps hung before the semi-circular reflector on the set. As cylinder rotates, contacts "make and break."



TEST MODEL of newly developed Norwood Color Temperature meter which has undergone exhaustive tests in use with all types of color films, indoors and out. Compact and light in weight, meter reads color temperature directly. Detachable scale plates also afford direct readings in terms of correction filters required and for the various types of color films.

CAPTAIN Don Norwood, who also introduced the Norwood Director exposure meter, shows pocket-size feature of meter. It is estimated new meter will sell for about same price as average exposure meters.

A New, Vest-pocket Color Temperature Meter

By CAPTAIN DON NORWOOD

SEVERAL YEARS ago, in 1939-40 to be exact, I had the pleasure of introducing, in the columns of the American Cinematographer, a new and valuable type of exposure meter. That meter was the Norwood Director. It represented the culmination of several years of prior research and development in my laboratory. The meter apparently filled a distinct need, because now many tens of thousands of those meters have been manufactured and are giving excellent service to photographers.

At this time I again take pleasure in introducing, in the American Cinematographer, another new meter. This meter is a device for measuring color temperature of illumination. This meter also is the result of considerable intensive research. It offers a number of practical advantages not found in any similar device.

Professional cinematographers are well aware that the color balance of illumination is a factor of considerable importance. In the case of black and white films, variations in color temperature may cause quite noticeable variations in film results. In the case of color films the color temperature is a decidedly critical matter. Color temperature must be exactly right to match the color balance of the color film if satisfactory results are to be attained.

The above described situation points to the need for a good practical color temperature meter. I have developed a meter which seems to me to just fill the bill. The illustration (above right) shows a ¾ view of the complete meter. The instrument is in the shape of a disk, being 2 9/16 inches in diameter and only 1 inch in thickness. A number of elements are installed in that compact disk. The galvanometer dial may be seen at the left. The color temperature scale plate may be seen on the circumference of the disk. A color valve is located on the far side of the disk. This color valve is operated when the circumferential rim, which carries the color temperature scale, is turned. Inside of the disk is a a galvanometer movement, a photo-voltaic cell, and color filters.

I will describe some of the requirements of a good practical meter for this purpose, and show how the Norwood Color Temperature meter meets those requirements.

First, the instrument must be quite accurate. This fact rules out the visual type meter, since that type depends on personal color vision. Color vision may vary from individual to individual, and varies in any given individual according to circumstances, which makes it undesirable for use as a reference standard. The Norwood Color-Temperature meter makes use of a photo-voltaic cell, a galvanometer, filters and light valves. It is quite impersonal, and highly accurate.

A practical color temperature meter must be easy to operate. The Norwood C-T meter is operated by pointing it toward the light source, and rotating the light valve until the galvanometer needle points to zero. At this time the color temperature may be read on the circumferential scale, adjacent to the index line. The null-reading position of the galvanometer

(Continued on Page 96)

TEMPORARILY chairmanned by Stanley Cortes (seated), A. S. C.'s Television Research Committee includes (left to right) Lee Garmes, George Folsey, Karl Struss, Victor Milner, Charles Rosher, and Arthur Miller and Hal Mohr, not pictured—all members of the A. S. C.

A. S. C. Inaugurates Research On Photography For Television

Eight-man research committee begins study of television's lighting and photographic requirements.

By VICTOR MILNER, A.S.C.

ANTICIPATING the role motion pictures and particularly directors of photography utlimately will play in television, the American Society of Cinematographers last month appointed an eight-man research committee for the purpose of studying and reporting on equipment and techniques presently employed in both live and film television broadcasting. Temporarily chairmanned by Stanley Cortez, A.S.C., the committee includes Victor Milner, Karl Struss, Hal Mohr, George Folsey, Charles Rosher, Lee Garmes, and Arthur Miller—all members of the A.S.C.

Anticipating that closer cooperation between television and motion picture technicians is inevitable and because there's a rising opinion that the latter industry's directors of photography are the logical men to aid TV in improving lighting and video camera techniques, members of the A. S. C. have taken the initiative, just as they did in the early days of the motion picture industry's transition from silent to sound films and, later, with the introduction of color to motion pictures.

Recently it has been implied that Hollywood technicians have attempted to intrude their techniques on television production. The point was made again at the recent Academy of Television Arts and Sciences' awards presentation ceremonies when one spokesman voiced his disapproval of what he termed the "intrusion" of the motion picture industry and its film technicians in television. The Society's research committee wishes to reassure television men that their aim is to help rather than hinder them.

Happily, the Society's interest in television is being accepted with enthusiasm by most of the electronics engineers of Hollywood's television industry. Top men in NBC's television staff recently appeared before members of the A. S. C., at one of the Society's recent technical meetings, enlightening them on television's aims as regards photography and the production of films for the medium. More recently, A. S. C.'s research committee was invited to visit NBC's television studios in Hollywood, where demonstrations of the type of motion picture photography most suitable for television were presented. Also demonstrated were the results on the television screen of motion picture films improperly printed for the medium.

NBC engineers demonstrated the network's modern processing and projection equipment for telecasting of both 16mm. and 35mm. motion picture films. At the same time, the engineers demonstrated on closed circuits the maximum reception quality that may be achieved with Kinescope film productions—motion pictures made of live television programs photographed in 16mm. directly off the kinescope tube.

The committee's research program include's a series of analytical studies to determine the best type of photography suitable for TV transmission; the best types of shots for television films; the suitability of current studio lighting techniques to the production of live TV shows; and the extent to which fundamental feature film techniques can be utilized in the production of motion pictures for television. The application of process photography and background projection in live shows will also be explored.

The actual photography of live shows will also be studied. The Society members will probably undergo a brief instruction course in the operation of the RCA image orthicon television studio camera, so that they shall be better informed on the scope

(Continued on Page 100)

KLAC-TV's cameraman, John DeMos, was formerly a newsreel photographer and cameraman on commercial film productions and brings to West Coast television a fresh approach to TV camera technique. His coverage of grid events in Los Angeles last season has been hailed as some of the best TV photography of football to date.

The Cinematographer's Place In Television

By JOHN De MOS

Television Cameraman, KLAC-TV

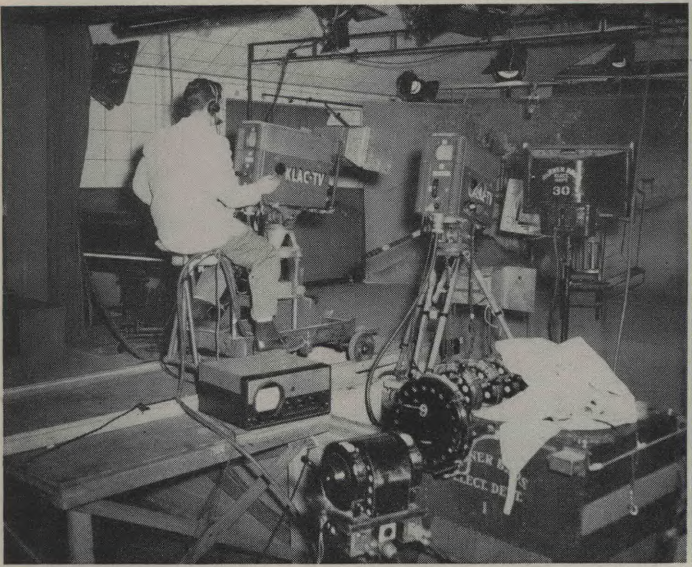
TELEVISION, far from threatening the security and future of Hollywood's motion picture photographers, actually will open up broad new horizons for many of them. In addition to the renewed studio production activity that will follow, when the use of films in television really hits its stride, TV studios will undoubtedly draw upon Hollywood cinematographers to man its cameras and to bring to the industry their broad knowledge of photography and lighting.

Lighting, of course, is the one big problem of TV which is being kicked around not unmercifully by some of the TV men themselves and by TV's armchair critics. The fact is, however, that even where improved lighting is in effect, it is still possible for the picture to turn out bad on the receiver screen because of several factors. For one thing, the electronics engineer at the studio holds the success of any TV program's pictorial quality in the palm of his hand — virtually between thumb and forefinger—as he twists the tiny dials that raise or lower contrast or balance the overall contrast of the picture. Add to this the impulse of the average receiver owner to tamper with the controls of his set and it is easy to see that what goes into the Kinescope tube *good,* can come out *bad* at the receiving end.

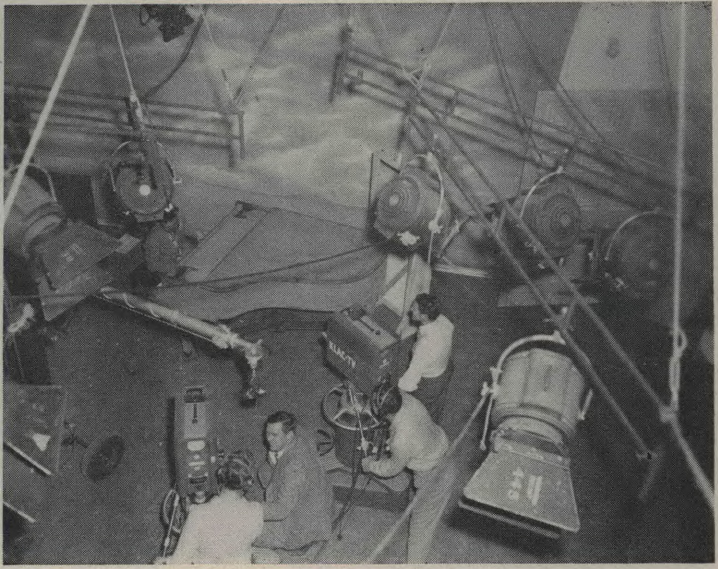
Television producers are generally agreed that the great need today is for experienced motion picture cameramen, lighting engineers and motion picture directors, and as soon as the business justifies the cost, these men will be sought for the important contributions they can bring to the industry.

I feel fortunate in being among the first motion picture cameramen to experience the transition from a photographic to an electronic camera. I had

(Continued on Page 102)



AMONG improvements recently introduced at KLAC-TV are regular motion picture lighting equipment, dimmers and other lighting controls. Front fill lights are used on the camera and position of overhead lights are remote controlled at an off-stage point.



HERE is an overhead view of KLAC-TV's lighting equipment—standard motion picture lighting units mounted on tubular metal rigging above the stage. With this equipment KLAC-TV is achieving excellent modeling and multi-dimensional effects in lighting studio productions.

New Lens Testing Method May Improve T V Picture Quality

RCA develops method of analyzing and rating ability of various types of lenses to show picture detail.

By R. B. HARTWELL

A NEW DEGREE of realism in television may result from a new method of measuring contrast characteristics of both optical and electrical lenses. Developed by Otto H. Schade, advance development engineer of the Tube Department of the Radio Corporation of America, the method is also applicable to contrast measurements for different types of photographic film and television screen materials.

Employing what is essentially a television pickup and reproduction system, it provides the television industry with the first known practical method of analyzing and rating the ability of various types of lenses to show picture detail.

For industries developing or using image-forming devices, this method means the end of guesswork and, for the first time, permits objective selection of lenses that will produce the best results in various types of systems. Data on the imaging power of the human eye has been incorporated in the procedure for plotting the overall response of lenses and other elements, so that the practical value of improvements in picture quality can be determined in terms of the observer's ability to detect them.

The theoretical values by which lenses have been rated heretofore, Mr. Schade explained, are based on their limiting or highest power of resolution—that is, the greatest number of lines of picture detail per millimeter which they can focus on film or viewing screen.

However, useful resolutions for photography and television are limited, respectively, by the response of photographic film and the width of television frequency channels. To improve picture detail within these limitations, the research engineer in these fields must strive for sharper contrast of light and dark picture elements within lower ranges of resolution—about 50 lines per millimeter in photography, and one-fifth as many lines in television. The system developed by Mr. Schade affords the first practical means of determining the contrast response of lenses in these ranges, or in any specified range from zero to the limiting resolution.

The realism of a simple scene, such as being televised here, may depend as much upon the camera's optics as it does on lighting and other factors, according to recent findings by engineers who have devised a new means of testing contrast characteristics of the lenses used in television.

The equipment chain employed in the system, he explained, consists essentially of a specimen mount, a lens mount, a microscope, a television camera, a television picture tube or kinescope, and an oscilloscope, arranged in that order. A test pattern made up of a series of vertical and horizontal lines of diminishing size and spacing is mounted before the lens to be tested or rated, and a greatly reduced image of the pattern is produced. The microscope enlarges this image before it is picked up by the television camera, providing a large, easily studied television image on the kinescope, and a large, acurate "trace" or wave-form image on the oscilloscope. The latter image is formed by feeding a portion of the electrical signal from the television camera to the oscilloscope.

Using this trace or wave-form as a basis, Mr. Schade has worked out a system for plotting curves on a chart to show the contrast or detail response of a given lens at any degree of resolution.

Similar ratings for the electrostatic or electromagnetic lenses used in television camera tubes can be charted by an application of the same principle, while ratings for similar lenses in kinescopes are established by a modification of the system employing RCA's "flying spot" scanning tube to analyze the kinescope image.

"It is theoretically possible to compute the detail contrast of a lens at any resolution," Mr. Schade said, "if we know the size and light intensity distribution of the light spot formed as the image of a point of light. The finer the spot, the better the detail contrast.

"However, since this spot assumes all kinds of queer shapes, particularly in the case of optical lenses, when it is moved over the picture area, measurement of its size and light distribution is very difficult. Even when such measurements can be made, there is the problem of using the spot to generate a picture before we can determine how it affects detail contrast.

"It remained for television to provide the practical means for obtaining these data, which are needed, not only by television itself, but by all activities concerned with image-forming devices. A television system is actually a continuously tracing micro photometer in which a tiny "scanning aperture"—the electron beam—analyzes the image along hundreds of parallel lines, translating light intensity into electrical currents which can be made visible again as an image on a kinescope or as a

(Continued on Page 102)

SINCERE CONGRATULATIONS

to all nominees
for Academy Awards

OUTSTANDING ACHIEVEMENT
BEST PHOTOGRAPHY

We Are Genuinely Proud
of the Contribution Made By

EASTMAN FILMS

J. E. BRULATOUR, INC.
FORT LEE CHICAGO HOLLYWOOD

One way to make a baby (or grownup) relax!

Sometimes, when you're taking indoor movies of a baby, or even of an adult, it's pretty hard to get them to relax.

For as soon as you throw on your flood lights, they start to get tense—to fidget and wiggle under the glaring lights.

There's one way, however, to help overcome this reaction. And that's to use super-fast Ansco Triple S Pan Reversible Film. For with this fast film in your camera, you can use less artificial lighting or move your lights farther back.

Result: less glare—your subject is not so conscious of the lights—is more relaxed—less apt to squint.

And outdoors or indoors, you can get your subject in good focus over a much wider range if you use Triple S Pan Film. For the speed of this film lets you stop down for extra depth of field.

Triple S Pan has a long, smooth gradation scale. Because of this, your movie scenes will be complimented for their fresh, professional look. Let your dealer tell you more about Ansco Triple S Pan Reversible Film. **Ansco, Binghamton, N. Y.** A Division of General Aniline & Film Corporation. "From Research to Reality."

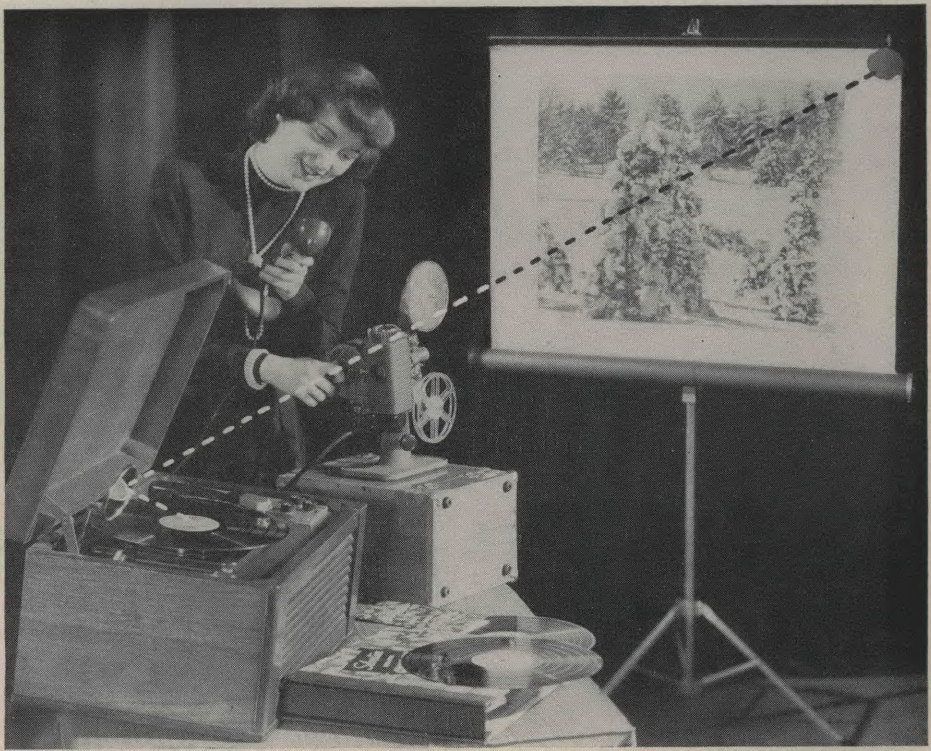
TIPS ON TITLES Next time you take pictures of your child, try printing the title on a large piece of cardboard—have your child walk in with the cardboard under her arm, and then hold it up in front of the camera. Makes a very effective title run.

ASK FOR

Ansco

8 AND 16MM

TRIPLE S PAN FILM



SHOWING the new Silvertone movie sound kit in use. Projector speed is kept in sync with wire recorder by means of stroboscope disc and light reflected from screen to disc. In operation, flickering light beam from projector is reflected from screen by small mirror back to another mirror on recorder, thence to strobo disc on turntable (see dotted lines). Operator adjusts projector speed until strobo disc segments appear stationary, indicating both machines are in sync.

Synchronized Sound For Home Movies

New method employing mirrors and a stroboscope insures absolute synchronization of home recorded sound with 8mm. or 16mm. movies.

By BERNARR WIXON

Radio Division, Sears, Roebuck & Co.

WE MADE our silent camera talk! And we did it for only a fraction of the cost usually associated with sound projection. Putting sound into home movies has always been a highly desirable but almost impossible task, but the growth of wire recording gave us a clue. Why not synchronize our silent projector with the sound from a wire recorded script. Sounds simple? Well! The main problem was to put feet of film and revolutions per minute on a comparative basis, and since the wire recorder runs at a constant speed, the projector has to be synchronized to the recorder. That briefly is what lead to the development of the Silvertone Home Movie Sound Kit.

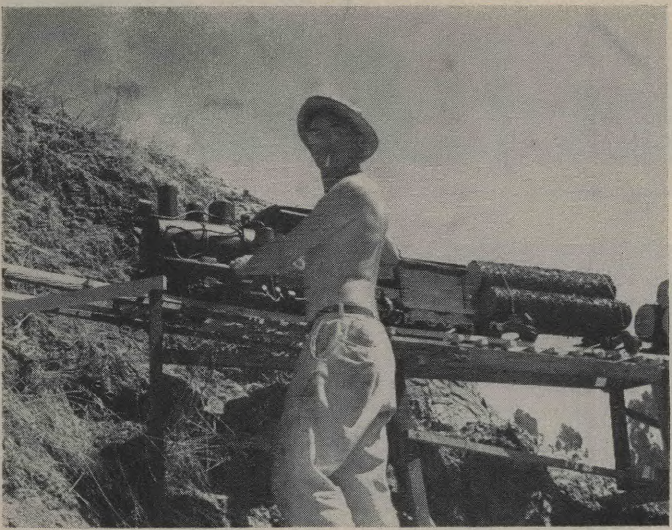
The simplest method for checking the speed of any rotating mechanism is the use of the stroboscope, a flat disc with a number of black and white segments around its perimeter, such as commonly used for testing speed of phonograph turntables. This disc, when revolving and illuminated by an intermittent light, such as an alternating current incandescent lamp, will appear motionless when travel speed of the segments correspond to the light flash interval.

We found that the flickering light issuing from a projector lens could also be utilized for this purpose when the stroboscope is designed with respect to the projector flicker interval. We found that by reflecting this light back from the screen by means of a small mirror, so that it would be made to fall upon the stroboscope disc by means of a second reflecting mirror, it would net the same speed controlling result. However, in this instance, we place the strobo disc on the recorder turntable which already has a fixed speed, and use it to keep in check the speed of the projector by adjusting the projector speed until it coincides with that of the recorder. That took care of operating both projector and recorder in sync.

Our next problem was how to get both film and sound recording to *start* simultaneously or in sync. This was solved by attaching to the film a generous leader strip and punching three cue marks at one end with a pin, each 12 frames apart. This gave us a 'Get ready', 'Get set', 'Go' indication on the screen. When the 'Go' dot flashed on the screen we started the recorder and adjusted the speed control on the projector until the stroboscope disc looked like it was standing still. We then maintained this condition by readjustment of the speed control. The better grades of projectors will run very steady and require little attention. Thus you can concentrate on the recording, or film, depending upon whether you are making the sound track or enjoying the results.

Take your movies at your convenience, edit them, prepare a script, or commentary, and make your own "talkies" by putting the sound on wire. One person can actually do the job, but the task will be easier and lots more fun if you have a couple of helpers. For example, one person on synchronization, one handling scripts, another assisting with sound ef-

(Continued on Page 106)



THE professional results obtained by amateur film producer, Ray Maker, are a product of painstaking preparation. He is shown here putting finishing touches on his midget train, the wrecking of which is one of high spots in his picture, "Dark Timber."

HOLLYWOOD'S best special effects men have never surpassed Ray Maker in the effectiveness of this miniature scene which was staged in an old Oakland, Calif., rock quarry. Maker built the model engine and cars himself.

An Amateur With Professional Ideas

Although his 16mm. movies display every professional technique, Ray Maker, Oakland, Calif., garageman insists he's still an amateur movie maker.

By ARTHUR ROWAN

RAY MAKER was born in Sacramento, California, 52 years ago, knows mining and pioneer history, has never been in professional movie work and has no relatives in the business. He once worked as a movie projectionist and that started him on his hobby of making movies.

During the past ten years Maker has completed ten 16mm. movies, eight of them in color and sound. His most recent production tops them all. Titled "Dark Timber," it is a pioneer logging story about a villianous lumberman who seeks to control the industry regardless of cost, blowing up railroad trestles, if necessary, in order to keep out competition.

RAY MAKER (plaid shirt, cigar, far right) gathers his cast and technicians from within his wide circle of friends. His wife acts as script girl and camera assistant. Maker filmed "Dark Timber" with a battery driven Auricon camera and enlisted aid of two friends to also cover the action with their cameras while shooting the spectacular train wrecking scene.

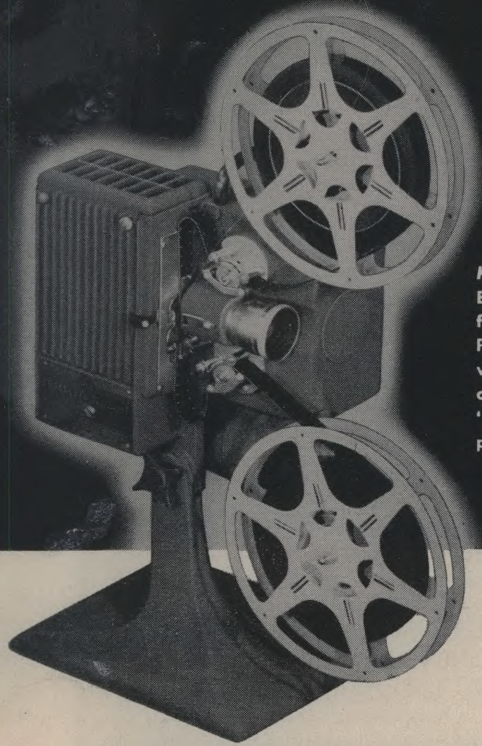
The production of this picture demanded use of all the latest Hollywood production techniques except, perhaps, background projection—possibly the only one Maker has not attempted thus far. But he will, eventually, and successfully, too. Maker is an example of the real dyed-in-the-wool amateur movie maker—the fellow who avidly studies movie making techniques from the screen, reads everything he can on professional motion picture production techniques, then sets about to reproduce the same techniques with 16mm. equipment. The fact Maker has been avidly turning out amateur movie films for 15 years proves that there's endless enjoyment in the hobby once you turn to serious work instead of simply shooting movies hit or miss.

Maker writes all his stories, directs, builds scenery and miniatures, assembles actors from among his friend and gets more ambitious with each new success. His studio for interior shots is at his home, where his wife often assists as script girl and camera operator. Screen actor Gregg McClure, featured in "The Great John L," is said to have played his first movie role in one of Ray Maker's early 16mm. films.

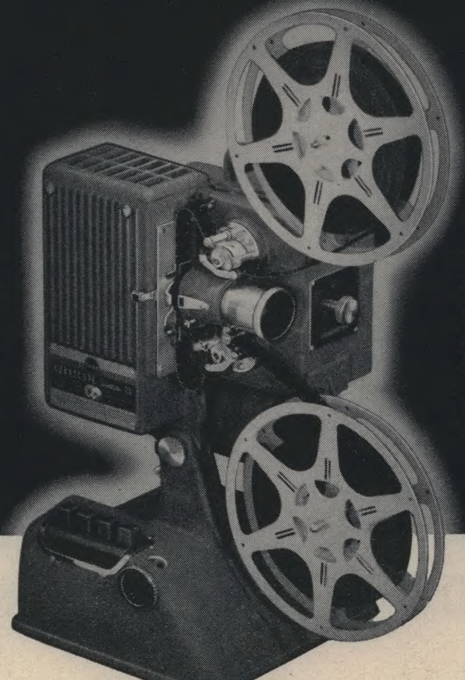
After completing a script, Maker usu-

(Continued on Page 97)

Kodascope Projectors



Kodascope Sixteen-10 Projector
Excellent optical system—fine, fast Kodak 2-inch *f*/1.6 Ektanon Projection Lens and brilliant 750-watt lamp. Accepts other lenses, other lamps (to 1000 watts) for "tailor-made" projection. The price—only $147.50.



Kodascope Sixteen-20 Projector
The same mechanical and optical excellence, the same lens-lamp versatility as Sixteen-10—plus extra ease in use...luxury, "push-button" operation. $245, with Standard Carrying Case; $261.50, with Projecto Case.

...for Superb 16mm. Motion Picture Showings

... take corner-to-corner sharpness, for example

Sharp in the center... sharp in every corner! The superb, over-all focus you get with a 16mm. Kodascope projector is to a large extent the result of the Kodak Field Flattener, a unique optical device integral with the Kodak 2-inch *f*/1.6 Ektanon Projection Lens—standard equipment with all 16mm. Kodascope projectors. The Field Flattener corrects the light rays that form the outer edges of the picture so that they come into the same plane of focus as those forming the center.

You'll see the results on your screen—*better, crisper, more uniform rendition of your movies!*

Important as it is to the proper projection of 16mm. movies, the field-flattening element that is part of the standard lens regularly supplied with 16mm. Kodascope projectors is but one of many reasons for making a Kodascope projector *your* projector.

Another is optical versatility—both of the "Sixteens" illustrated above come equipped with 2-inch lenses and 750-watt lamps . . . ideal for average projection conditions. But if you plan to show your movies under unusual conditions—long "throws" in spacious auditoriums, or very short "throws" in small rooms—you can buy your projector "tailored" to your needs with your choice of several other lenses and lamps so that screen areas and brilliance are exactly *right* for the size and seating of your audiences. All standard and accessory Kodak Projection Lenses are *Lumenized*—ultrahard coated at all glass-air surfaces for better, brighter movies. Whatever your lens-lamp selection, screen results will be unsurpassed.

You'll also like the ease of operating a Kodascope projector—adjustment controls are simple and positive in action . . . conveniently located. Threading is handy, too—sprockets and gate are wide-opening, easily accessible.

Trimly handsome in appearance, rugged in operation, Kodascope projectors are outstanding performers on every count. Better plan to see them soon—at your Kodak dealer's.

EASTMAN KODAK COMPANY
ROCHESTER 4, N. Y.

Prices are subject to change without notice

"Kodak" is a trade-mark

Kodak

IT IS important to have the cameraman present on all important pre-production conferences. Looking at the story in terms of camera angles, lighting etc., he can suggest many short cuts that not only will save money but enhance the production, too.—Photo courtesy Rockett Pictures.

Planning The 16mm Commercial Film

The first in a series of articles dealing with making of 16 mm. commercial films points up the importance of careful production planning.

By CHARLES LORING

PRODUCTION planning is at least as important to the 16mm. commercial film producer as it is to the executive producer in Hollywood — perhaps more so, since the commercial producer rarely has at his command the budget and shooting schedule alloted to even the humblest Hollywood quickie. Both time and money are usually limited in the shooting of the average 16mm. commercial, and it is intelligent production planning more than any other one element that spells the difference between profit or possible loss to the producer.

Production planning of a commercial or industrial feature should begin with the very first conferences between producer and client. Certain basic decisions must be agreed upon before even the most rudimentary script can be written, namely: how much money the client will allot for the production, and how much time will be available to produce the film. Clients are prone to underestimate both factors, with resultant strain to the producer, so it is well to get these matters settled before any elaborate production plans are made.

Once these basic decisions are settled the producer will know just how much production value he can include in his script and will instruct his writer accordingly. The writer will then know whether he can go ahead and write an epic with a "cast of thousands," or whether he'll have to hold his imagination in check.

All through the writing of the script, the producer should work very closely with the writer and director to make sure the screenplay is following the production plan agreed upon. Even veteran screenwriters, when left to their uncontrolled devices, have a way of writing the producer into a corner. They will, for example, concieve sequences that sound perfectly wonderful on paper but which would require the facilities of M-G-M to stage convincingly on the screen. Or, if they are less accustomed to the limitations of 16mm. filming, they might write in a sequence similar to one they have seen in a Disney extravagnaza—something that required a whole staff of special effects experts even for the great Walt to produce.

In order to establish a relationship between budget and production value as set down in the script, it is necessary to review the elements involved. The first factor to be considered is whether the picture is to be shot in color or black and white. Color is more effective than black and white, but it is also more costly in terms of raw stock and the extra light required for interior set-ups.

The second element to be taken into consideration is that of sound. If the picture is to be a sound film, an extra 10 to 25 per cent is automatically added to the budget. Narrated sound is usually fairly easy to negotiate, since there are any number of laboratories that provide a complete music and recording service for the small producer who does not have his own sound facilities. Direct lip-sync sound is a much more costly and difficult proposition to arrange. Outside of New York and Hollywood there are few studios that specialize in this service, and the small producer is either obliged to buy his own direct sound equipment or import a trained crew with sound truck from the nearest film center. Both alternatives are costly.

Whether the film requires a good many interior set-ups or can be staged mainly out-of-doors will have considerable influence on both the budget and shooting schedule. Interior set-ups are expensive because they require not only the rental or purchase of lighting units, but the installation (in many cases) of special lines to carry the current load. From the shooting schedule standpoint, the extra time involved in moving equipment to the location, installing power lines and setting up lights, amounts to a very substantial item.

After the shooting script has been approved, the director of the film and his assistant break it down into a shooting schedule, which is nothing more than a calendar of filming. If possible the entire script is taken apart and a definite time is set for shooting each scene. A well-planned shooting schedule can save a world of time and confusion for the production staff.

In setting up the shooting schedule, list for earliest shooting the scenes which require the least staging. In this way you will be getting a good part of your script "in the can" in the shortest possible time (always a comforting thought), and you will also have your crew busy while the elements of more complicated scenes are being assembled.

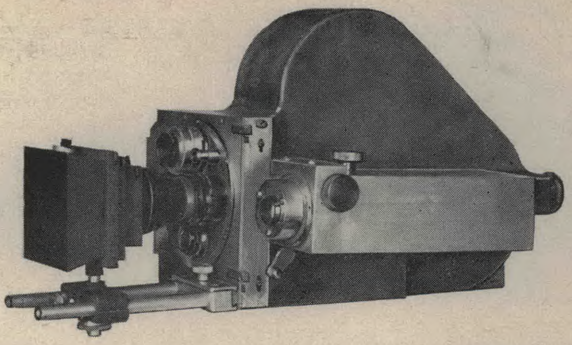
One of the first steps in setting up the shooting schedule is to go through the script very carefully and list the locations, props and personnel necessary for shooting each scene—also, any special equipment outside of that generally available which must be procured. Wheels should immediately be set in motion to secure in advance everything that will be needed for a particular day's shooting. Location sites should be scouted and selected. Special props and costumes should be arranged for. Cast and additional crew members (if required) should be lined up. Any special equipment that is necessary should be either bought or rented. In short, every detail should be arranged for in advance, so that when the time comes to shoot a particular scene there will be no possible slip-up to cause delay.

Make a careful check of all proposed interior locations to make sure that sufficient electrical current is available. For black and white filming, standard circuits frequently will do the trick, but for color filming on any substantial scale, arrangements will have to be made to secure a more powerful current. In large buildings or factories sufficient power may be obtained by tying an auxiliary cable directly into the main switchboard. The maintenance man on the premises should be called in to make this connection, since he is usually familiar with the board and its separate circuits. Where such an arrangement is not practical, it may be necessary to arrange for a special transformer or generator. In any event, all such arrangements should be made well in advance.

Props and costumes provide a problem all their own. Wherever possible these should be borrowed or rented. Quite often, however, it is necessary to make special costumes and build props. This should be done while the crew is busy shooting routine shots.

In deciding which scenes are to be filmed, several elements must be taken into consideration. As a general rule, scenes in a common locale or with the same crew members should be grouped

The
NORD



A completely NEW 16mm. Professional Camera

THE WRAPS ARE OFF! A new professional 16mm. camera with radically new features important to every commercial, educational and television film producer. The NORD insures top photographic results under most adverse filming conditions. The result of five years of careful research and development, this camera has all the desirable features you require including:

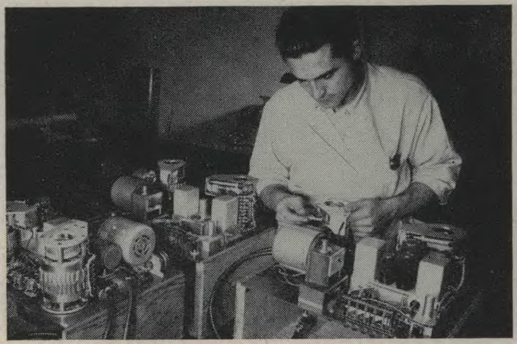
- New type intermittent for rock-steady pictures plus perfect precision registration so important for multiple exposure work. Movement cannot perforate film, is self-engaging. To thread camera, merely place film in raceway, close gate and turn camera over. Feed finger finds perforations automatically.
- Rack-over devoid of structural weaknesses. No dovetails. Permanent alignment with no adjustments. Rack-over completely sealed in camera—a boon to location use.
- Direct focusing and lineup through the "taking" lens. No ground glass obscures detail. Gives brilliant erect image of full field, magnified. Focusing microscope for critical examination of image.
- 240° shutter insures lighting economy—two lights do work of three.
- Removable aperture plate insures "whisker-free" frame lines.
- Priced under $3000.00

Write For Bulletin Giving Complete Description

THE NORD COMPANY
254 FIRST AVENUE, NORTH,
MINNEAPOLIS, MINN.

PRECISION PRODUCTION...
Key To HALLEN RECORDER Superiority!

- Records magnetically on slit oxide-coated 35mm. film.
- Portable
- Synchronous
- Film is sprocket driven



Every recorder precision tested

PRECISE! Sound recorded on one Hallen Recorder can be played back on any Hallen Recorder. Precision workmanship, and individual inspection and testing of each recorder insures this.

FEATURES: Interlocks with any 35mm. or 16mm. synchronous-motor driven camera • 30 to 11,000 cycles, + or — 1½ db. • Film Speed 90 ft. per minute • Fast forward and reverse control for editing • Electric brakes • Built-in 2-stage pre-amplifier; handles any standard microphone • Also records on ¼" tape.

$1500.00
FOB Burbank, Calif.

HALLEN CORPORATION
3503 W. Olive St. • BURBANK, CALIF. • Phone: CHarleston 8-6976

Cine Kinks

for Movie Amateurs

FOR TABLE TOP MOVIES of winter scenes, use moth flakes for snow. To simulate hills or rocky terrain, use crumpled paper. Before sprinkling surface with moth flakes, spray with a tacky solution consisting of diluted mucilage applied with a fly-spray gun.

•

USE YOUR TYPEWRITER TITLER for shooting ultra-closeups of flowers, insects, and other nature subjects. Simply frame your subject within the title card frame, making sure that subject is kept the same distance from lens as indicated for title cards.

•

WHEN SPLICES FAIL TO HOLD because cement is too thin (thus drying too rapidly) add a piece of film to the cement—about two frames from which emulsion has been thoroughly removed.

•

ATTACH A TWO-WAY spirit level to your tripod base to insure setting camera level each time. Levels may be purchased at small cost from hardware stores or butcher supply houses. Mount level on thin metal plate drilled to fit over tripod screw, between camera and tripod head.

•

RIGHT ANGLE PRISM FINDERS, available at most war surplus stores, make excellent finders for shooting movies unobstrusively of children or others shy of the camera. Gadget enables you to point at subject while facing away at right angle.

•

PUNCH A SMALL HOLE in the rubber cap on your camera lens to permit "breathing" and thus prevent oxidation of your lens, where camera is stored for long periods of time with lens capped.

•

TO PREVENT PROJECTOR being pulled to floor by careless feet entangling the extension cord, twist cord around table leg three times before plugging into projector.

•

NOISY PROJECTORS can be "soundproofed" by placing over them a "blimp" made of a corrugated carton of suitable size in which openings have been cut for the light beam and exhaust from lamp house.

•

AFTER USING YOUR CAMERA at the beach, at sea, or near the ocean, clean all bright trim thoroughly with carbon- tetrachloride to remove any deposits of salt spray that might permanently mar the finish.

together for shooting, even though they might be widely scattered in the actual sequence of the script. Thus, if scenes 22, 83, and 147 all take place in the same far-flung locale, it is common sense to schedule them for shooting at the same time, instead of making three separate trips to the location. While shooting in sequence might be dramatically more understandable for the actors, it is rarely as economical as grouping scenes for maximum efficiency in filming.

If the time alloted for filming the picture is limited, as is usually the case in the commercial film, it is wise to set up an alternate shooting schedule for interiors or exteriors. In this regard, weather should be the deciding factor. Exteriors should be scheduled for shooting first, weather permitting—but an alternate interior sequence should be penciled in just in case a monsoon overtakes the crew on the day scheduled for filming. With necessary prepartions for the standby sequence made in advance, the crew need only move indoors to continue shooting. In complicated sequences, always allot an extra day or two for unforeseen hold-ups, as these are almost certain to occur.

There is another factor which is often ignored, but which can raise the very devil with the shooting schedule and the ultimate delivery of the finished film, and that is the time that must be alloted for lab processing, sound recording and any other services which the producer must have done outside of his own organization. Very often the producer, knowing the working speed of his own crew, will promise the client a completed film on a certain date, only to find that delivery is delayed by an unforeseen hold-up at the lab. Know your outside services and the time schedules upon which they operate. Check to see exactly how long it takes to have a work-print made and edge-numbered, how long it takes to process original footage, how much time must be allotted for recording and re-recording. Be sure to allow time for mailing both ways to plants located outside of the city. When all these estimates have been made, add a few extra days to your estimate just for safety.

If, in the planning of the shooting schedule, it is found that certain scenes require preparation that is unduly elaborate to the effect of the scene in the finished picture, modifications should be made. Very often it is possible to revise the shooting requirements of the scene to secure the same effect with a much simpler set-up. Using a bit of originality, it is often possible to convey a feeling of great production value with staging that is really quite simple to set up.

In any event, production planning is easily worth whatever time the 16mm. commercial producer invests in it. It should be instituted as normal routine if a truly professional approach to production is desired.

NEW NORWOOD COLOR TEMPERATURE METER

(Continued from Page 85)

is quite easy to note because a relatively small movement of the light valve will cause the needle to move over quite a distance.

A color temperature meter should be readily portable. Large, ungainly devices that are cumbersome and awkard to lug around are, in general, considered to be unsatisfactory. A satisfactory device should preferably be small enough to slip into a shirt pocket. The Norwood C-T meter works on such a strikingly satisfactory principle that it is possible to make the instrument small enough to slip into a shirt pocket.

A desirable C-T meter should be moderate in cost. A reasonable cost for a color temperature meter would be about the same as for a first class type exposure meter. The design of the Norwood C-T meter is such as to facilitate quantity production procedures, with respect to run-of-the-mill cells, galvanometers, filters, and other elements of the electrical circuits. In addition, this meter does not require costly linkages and numerous moving parts. Therefore the production cost will be relatively low and the meter will sell for a very reasonable price.

The Norwood C-T meter is provided with a unique type of scale which offers some rather advantageous features. To begin with, the scale is very long for such a small instrument. The overall scale length is four inches. This long scale provides for well separated scale divisions. This makes for very easy and accurate reading of the scale. Next, the scale plate is readily demountable. It may be attached in position in just a moment. Various alternate scale plates are available.

One scale plate may be calibrated in terms of Degrees Kelvin for a useful color temperature scale, extending from 2000°K to 20,000°K.

Another scale may be calibrated in the newer color temperature units termed "Mireds." Mireds mean micro-reciprocal-degrees. A mired scale offers some important advantages. The photographically useful mired scale extends from 50 to 500 mireds. No one has to use this scale but it will be available for those who wish it.

Another scale plate which is available

is very interesting and appears to be one which will have extensive use. This scale is based on the premise that utmost simplicity of operation and most direct reading of results are important objectives. For example, suppose that a photographer is working outdoors with color film, in uncontrolled illumination. Under these conditions it is quite probable that he will have to use a filter over the camera lens in order to make the transmitted light match the characteristics of the film in the camera. What he desires then of a color temperature meter is the most direct indication of the proper filter to use under the circumstances. If translation from a Degrees Kelvin scale through tables, carried in the pocket, etc., to a final answer in terms of what filter to use, can be avoided, so much the better.

The Norwood C-T meter is equipped to provide a direct answer in terms of the appropriate correction filter. A scale plate, which may be attached to the meter, is calibrated directly in terms of filters for a given type of film. Available also is a demountable scale plate for outdoor color film, such as Kodachrome Outdoor or Ansco Color Outdoor, and Harrison filters. Operation of the meter is quite easy. The appropriate scale is snapped into position. The meter is pointed toward

Rentals
Sales and Repairs
Mitchell
Bell & Howell
Eyemo
Akeley
Wall
Cameras

"Debloopers"

John Clemens - Erwin Harwood

National Cine Equipment
20 West 22nd St., New York 10

Designing
Manufacturing
Lens
Mountings
16 and 35 mm.
Baltar Lenses
Photometric
"f" Scaling

Cine Special Repairs, Modifications

Animation Stands • Motors • Magic Eye Cameras

Only Art Reeves Can Sell The New Model

SENSITESTER

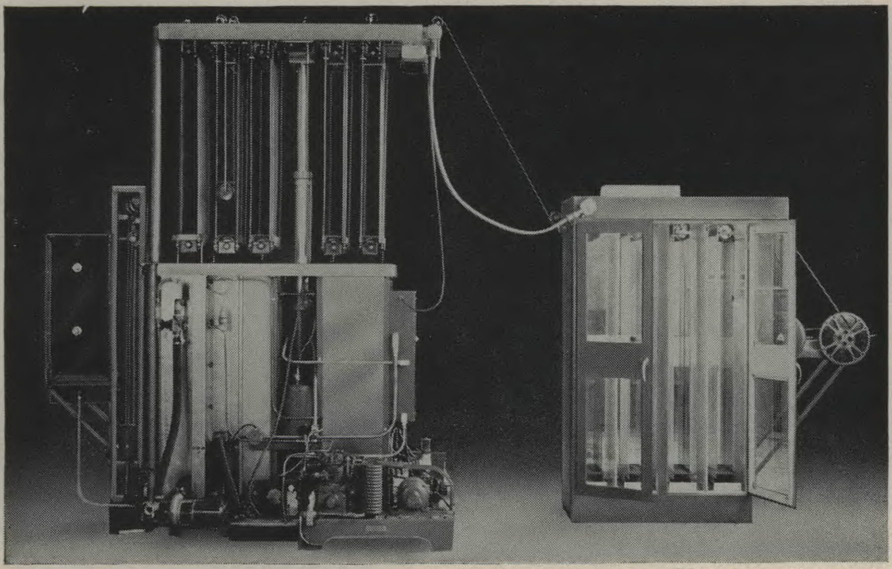
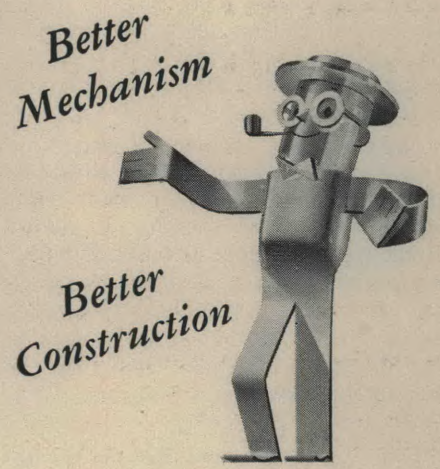
Will Handle Modern Fine Grain Film

NOW AVAILABLE

Line-O-Lite Recording Glow Lamps

ART REEVES MOTION PICTURE EQUIPMENT

1515 N. Cahuenga Blvd. Hollywood 28, Calif.

WANT MAXIMUM PROFITS FROM YOUR PROCESSOR?

The film developing machine that will earn you the biggest profits—or save you the most money—is the one that operates longest and smoothest with the least attention. And once you compare it with any other you'll agree that Fonda is that machine... processes any type film: 35mm, 16mm, color, black and white, positive, negative, reversal or microfilm. For comparison purposes send now for your complimentary copy of the new illustrated booklet giving complete details of the Fonda Film Processor.

Address Fonda Division, Solar Aircraft Company, 2212 Pacific Highway, San Diego 12, Calif.

FONDA FILM PROCESSING EQUIPMENT DIVISION

SOLAR STAINLESS PRODUCTS

25 YEARS AGO

With A.S.C. And Members

• KARL BROWN, who just returned from location in Southern Mississippi where he shot James Cruze's production, "Magnolia," moved into his new home in the Hollywood hills, which boasted a lavish photographic darkroom as one of its many features.

• FRANK B. GOOD got a breather between pictures when he wound up the photography on "Boy Of Flanders," which starred Jackie Coogan.

• VICTOR MILNER, who photographed the picture, was supervising the making of release prints for Fred Niblo's "Thy Name Is Woman."

• GEORGE SCHNEIDERMAN was on location in Wadsworth, Nevada, filming the Fox production, "Transcontinental Railroad."

• JAMES VAN TREES put the final scene of "Lilies Of The Field" in the can at First National and prepared to take an extended vacation.

• JACKSON ROSE was at Universal shooting "An Old Man's Darling," which starred Laura LaPlante. Previously, he had photographed P. P. Sheehan's initial production for Universal—"Innocent," a King Baggot feature.

• FRED JACKMAN received a deserving accolade from the Los Angeles Times which published an article commending his direction of the Hal Roach release, "King Of Wild Horses," photographed by his brother, Floyd Jackman.

• REGGI LYONS resumed his association with J. Stuart Blackton, with whom he had been cinematographer many years before, and started shooting Blackton's Vitagraph production, "Between Friends."

• NOTICE in the March, 1924 issue of AMERICAN CINEMATOGRAPHER stated: "A.S.C. Members are seldom at liberty. When they are, they may be reached by phoning or writing A.S.C. headquarters.

• DAN CLARK wound up the photography on "Fine And Dandy," starring Tom Mix, and began preparations immediately to shoot another Tom Mix feature, "The Trouble Shooter."

• TWENTY-FIVE YEARS AGO it was customary for the cinematographer to supervise the making of all release prints on important productions. Engaged in this activity in March, 1924, were: Arthur Edeson on Doug Fairbanks Sr's., "Thief Of Bagdad," Charles Rosher on Mary Pickford's "Dorothy Vernon of Haddon Hall," and Victor Milner on Fred Niblo's "Thy Name Is Woman."

the light source. The light valve is turned until the null reading is shown on the galvanometer. Adjacent to the rim index line will be found an indication of the proper filter to use. Very simple. An additional convenience has been provided by showing the appropriate filter factor adjacent to each filter reading on the scale plate.

Alternate scale plates are available for other makes of filters and other types of color films. The average photographer will probably be equipped with one brand of filters and likely will not make frequent changes of type of color film in his camera. Under these conditions there will be no need for frequent changes of scale plate on the meter, although such changes are very easily made when desired, as has been pointed out.

A very important feature of the Norwood C-T meter is the fact that its operation is independent of the light intensity. It is a null-reading type of instrument that functions with balanced electrical circuits. Due to this fact, variations in light intensity will not affect the meter. The meter is sensitive exclusively to changes in color temperature of illumination.

Consider what this means in studio practice. An important use of a color temperature meter in the studio is to check each light unit and achieve a proper color temperature of light radiated therefrom. With some types of color temperature meters it is necessary to go through a cycle of operations to adjust the meter to the intensity of the light before a color temperature reading can be taken. Suppose the color temperature of the light is too high. If an electrician reduces the color temperature of the light by reducing voltage or by installation of a filter, the intensity as well as the color temperature is reduced. Then the cycle of operations of that meter must be repeated. It might be necessary to run through the cycle four or five times to reach the proper color temperature for one lamp. Repeat this for each lamp, and a tedious routine is involved.

The Norwood C-T meter is quite independent of variation in light intensity. This makes it possible to present the Norwood C-T meter to the desired color temperature by simply turning the light-valve element until the desired reading shows on the scale plate. Then the meter is pointed at the studio lamp. If the light is too red or too blue that fact will be indicated on the galvanometer dial. The studio lamp is then adjusted until the null reading shows on the meter. At that time the studio lamp has the correct color temperature. It is as simple as that.

It will probably be evident to the experienced cinematographer that a great deal of careful thought has gone into the design of this Norwood C-T meter. A constant objective of the designer has been to produce an instrument that would, as nearly as possible, be ideal from the photographer's point of view. It has been made compact, rugged, accurate, free from complicated parts, simple to operate, easy to read, gives directly significant indications, and is so designed that it may be produced at a very reasonable cost.

1948 NOMINEES

(Continued from Page 81)

Joseph Valentine, A.S.C., "Joan Of Arc" (Sierra-R.K.O.),
William V. Skall, A.S.C., "Joan Of Arc" (Sierra-R.K.O.),
Winton Hoch, A.S.C., "Joan Of Arc" (Sierra-R.K.O).

"Joan Of Arc," probably one of the most extensive Technicolor motion picture undertakings in recent years, was a three-way camera asignment demanding the services of Joseph Valentine, William V. Skall and Winton Hoch. Should this picture be selected by the Academy of Motion Picture Arts and Sciences as the best in the color division, Valentine, Skall and Hoch will share equally in the award, each receiving an Oscar in recognition of their contribution in the filming of this picture.

Actually the pictures and not the men who filmed them are the contenders for the Academy Awards, but of course the directors of photography shall receive the Oscars when the final results are announced. The eleven films under consideration and listed above are currently being voted on by some 2000 members of the Academy to select the best black and white and the best color production of 1948. The winners will be announced, along with the best achievements in other branches of creative motion picture production, at the gala annual Academy Award presentation which will take place this year at the Academy's own theatre in Beverly Hills, on the night of March 24th.

The nine contending films were selected by the top directors of photography in the industry from a list of 47 films nominated by the men who filmed them. Each year each director of photography is invited to nominate one production in either or both black and white or color on which he has received single or joint screen credit. This is included on a preliminary or primary ballot which is sent to each director of photography in the industry who then votes for ten or less productions in black and white and eight in color in the order of his preference. The eighteen productions thus selected are then screened by the Academy to give all directors of photography an opportunity to see these productions under the same conditions.

At the conclusion of the screenings another ballot, listing the eighteen productions, is then sent to all directors of photography who vote for five black and white and four color productions in the order of their preference. The nine productions receiving the greatest number of votes are nominated for the annual Cinematographic Achievement awards. Only Academy members participate in the final voting—the procedure now going on and which culminates in the final announcements March 24th.

Of the eleven men whose films are nominated for 1948 awards, only one—Charles B. Lang, Jr.—has graced the winner's circle in the past. That was in 1933 when he was awarded an Oscar for his photography of "Farewell To Arms."

Not a single foreign film nominee survived the finals. In the initial nominations were eleven black and white and four color foreign productions. Of these, only "Hamlet," "An Ideal Husband," and "The Red Shoes" survived the first or preliminary ballot and were listed among the eighteen films placed on the second or nominating ballot.

A full account of the winning films and the men who photographed them will appear in the April issue of American Cinematographer.

THE RED SHOES

(Continued from Page 83)

travelled to Hollywood to confer with technical experts in the science of set lighting, and returned with blueprints for an arc light that could be boosted from the usual 150 amps, to 200 amps. Even this monster lamp, however, failed to give him enough light for the effect he required.

After consultation with Mole-Richardson and Taylor Hobson Cooke, a lamp was conceived that would make a searchlight look like a pocket flashlight. It took many months to design the lamp and make the lenses, but both firms had the new unit ready by the first day of shooting. It was a 300 amp., water-cooled arc that produced a comfortable 1,200 foot-candles 100 ft. away from the subject. It contributes much to the authentic ballet atmosphere of the staging.

The new 225 amp. Mole - Richardson

"PROFESSIONAL JUNIOR"
CAMERA EQUIPMENT

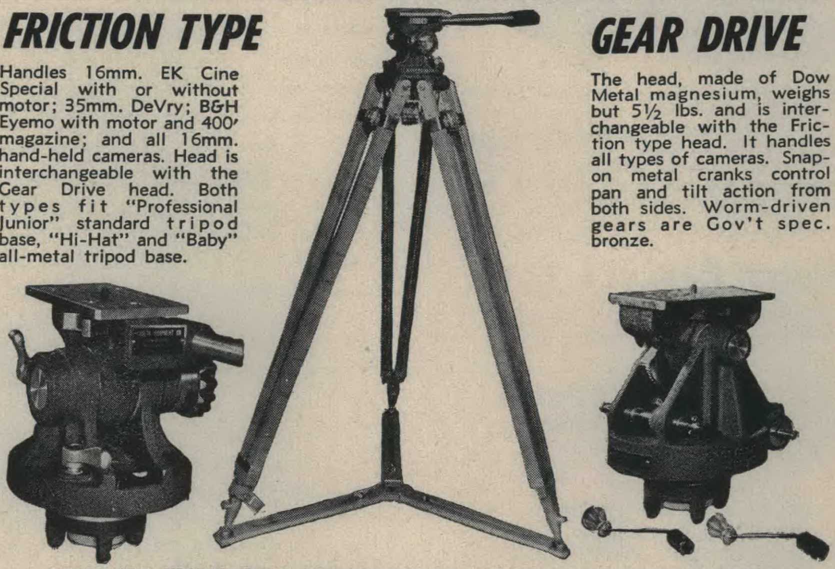
Interchangeable - Removable Head Tripods

FRICTION TYPE

Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400′ magazine; and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.

GEAR DRIVE

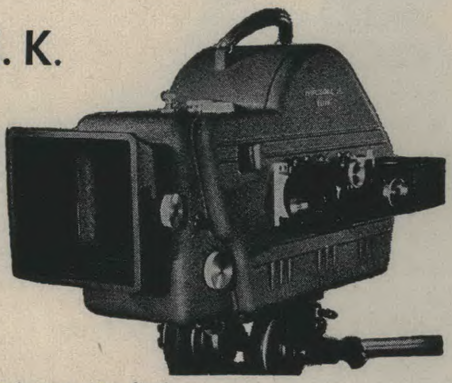
The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm-driven gears are Gov't spec. bronze.

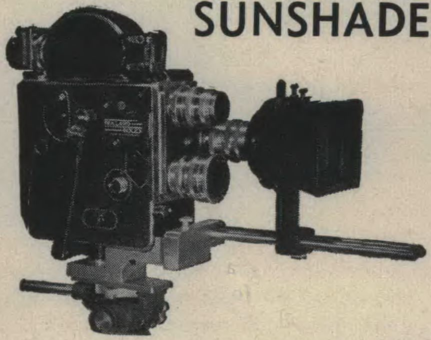


STANDARD TRIPOD BASE AND COLLAPSIBLE ADJUSTABLE METAL TRIANGLE

BLIMP for 16mm. E. K. CINE SPECIAL

This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.





SUNSHADE & FILTER HOLDER COMBINATION

For use with Bolex and Cine Special 16mm. cameras. Holds two 2″ sq. glass filters and a round 2½″ Pola Screen with handle which can be rotated for polarization. Covers all lenses from 15mm. to 6″ telephoto and eliminates need of various filters. Precision made of the finest materials. Compact, simple to assemble and dismount. May be permanently affixed to camera or quickly detached.

—ALSO AVAILABLE—

BABY TRIPODS
CHANGING BAGS
3 WHEEL PORTABLE DOLLYS
"HI-HATS"

Send for our catalog. It describes all our products completely

FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY NEW YORK CITY

"Brute" was another important item in the staging of the ballets for "The Red Shoes." Cardiff managed to obtain two of these in Hollywood and had them flown to England just in time for the filming of the dances. These big arcs could cover the entire corps-de-ballet in one clear source of light, and still produce a Technicolor light level.

Several very unusual special effects were devised especially for the ballet sequence, and some were adaptations of previously accepted techniques.

One of the most effective transitions, that of the full stage changing from day to night, was done by dissolving five separate background paintings. The "dance of exhaustion" was shot straight at normal speed against a series of planned continuous transparent screens hung with cellophane. The whole emotional effect was produced by the movement of the dancer.

In one sequence huge transparent leaves swirl down around the dancer. This was shot at varying speeds, none higher than fifty-six frames a second. The cellophane falling leaves were released by hundreds of invisible wires. The set itself was composed by arranging transparent screens.

The effect of the huge shadows of the Shoemaker's hands menacing the dancer was achieved by using two 25 amp. brutes with the condenser lens replaced by a sheet of plain glass.

The striking effect of the dancer soaring through a changing surrealistic landscape was gained through the use of the "Gunnshot" procress, developed in England by George Gunn of Technicolor. The setting was created through the use of painted backings of cellophane sheets, cellophane foregrounds and chemical effects produced in water. The dancer was super-imposed by Gunn's traveling matte process.

One very effective sequence is that in which a pile of newspapers on the ground begins to swirl and dance until it assumes the outline of a figure which suddenly changes into a man. This newspaper dance was shot at varying speeds. For example, one continuous shot started at eight frames a second and finished at thirty-two. The newspaper figure was constructed by the trick department and hung on wires puppet fashion so that it could be rehearsed to the music. The effect of the figure changing into the dancer and vice versa was done by cutting at the exact frame, tests having shown that dissolves were too slow. This dance ends with the dancer leaping at 48 frames which changes to 24 as he touches the ground.

An especially effective shot is that which is filmed from the back of the stage out toward the audience, with roaring waves filling the auditorium. This was a straight double exposure of the studio set, a painting, and a real shot of the sea made at Cornwall. Footlights on the stage were partly practical and partly painted. This must have been a very difficult shot to balance.

Even the smallest cut was shot to a playback of the complete musical score, and it was as much the precision of the dancers as that of the technicians that made the sequence possible.

While the "Red Shoes" ballet is the dramatic and visual climax of the film, it is only a small part of the picture's 2½ hour length. The film contains many other excellent sequences filmed on location in Monte Carlo, Paris and other exotic spots. The beautiful settings and wonderful mood lighting are a perfect complement to an intriguing dramatic story. For Jack Cardiff it was a "cameraman's dream," embracing the warm scenic beauty of the Cote D'Azur, the splendor of first nights in European capitals, the hard work and play and squabbles of an international ballet company. For the audience it is a rare clinematic experience

A. S. C.'s RESEARCH FOR TELEVISION

(Continued from Page 86)

of this relatively strange new instrument of photography. Inevitably there will be some who will prefer to pursue this phase of television work rather than the making of films for television.

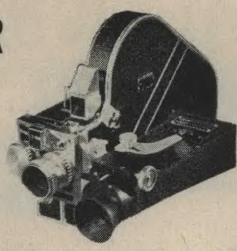
It is, of course, the motion picture industry's repeated affirmation to enter the field of TV film production on a large scale that prompts the Society's interest in pursuing research now. For if the studios ultimately undertake to supply television with films especially made for the medium, the photography will become one of the most important factors contributing to such films' success. Obviously directors of photography would be derelict in their duty not to give the prospect their immediate attention.

Substantiating the view that the motion picture industry is vitally interested in production of films for video is the recent announcement that National Broadcasting Company heads had engaged in "exploratory" discusions with Warner Brothers on the production of special films for telecasting by the network.

William Paley, of C.B.S., was subsequently reported ready to lead the Co-

PROFESSIONAL

VIEWFINDER FOR 16MM. CAMERAS



Shows large, erect image, corrected from left to right, on ground glass.

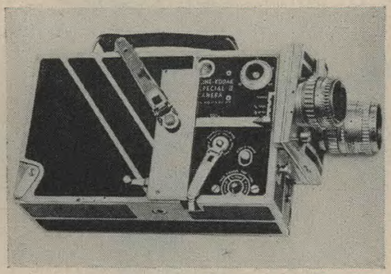
Shown above as used on the Cine Special. Model available for your camera, too. Professionalize your camera—improve your photography and composition. Write for details and price, stating make and model of camera used.

Attractive Discounts to Dealers

Maier-Hancock Corp.

12270 Montague St. Pacoima, Calif.

AUTOMATIC DISSOLVE
For The Cine Special



New Improved Model 'C"
$60.00 Plus Tax

JOSEPH YOLO
5968 Santa Monica Blvd., Hollywood, Calif.

WANTED:
PRODUCTION DIRECTOR

Indiana University wants young man with film production experience: writing, direction, camera work, and editing. Beginning salary depends on training and experience. Appointee may take 12 to 15 semester hours of college work each year toward BA or MA degree while employed on full time basis.

APPLY to L. C. Larson, Director, Audio-Visual Center, Indiana University, Bloomington, Indiana.

A NEW ILLUSTRATED CATALOGUE OF 1,000 RARE, OUT-OF-PRINT and NEW

FILM BOOKS

Also: DANCE, THEATRE & COSTUMING
Write for your FREE copy
A & B BOOKSELLERS
Specialists in Film Books
Dept. AC, 63 Fifth Ave., New York 3
OR. 3-1570

lumbia Broadcasting System into the active participation of television film production. Hunt Stromberg has already made sample films and is negotiating with Edward Small for a video releasing arrangement. Other producers, reported ready to release special made TV films are Boris Morris, Samuel Bronsten and Allen Kent. These are just a few of Hollywood's feature film producers making motions in this direction. The town is full of small independents making movies for television ranging from one-minute spot commercial announcements to feature-length films.

It was to be expected that there would be a rush of individuals and newly-formed producing companies to get into TV film production "on the ground floor." But many have made the mistake of rushing in blindly, failing to first analyze television's peculiar needs as regards films, with the result that today many of these hasty film productions are gathering dust on the producer's shelves.

When the studios undertake making films expressly for television, they will want to be sure their product is technically perfect at least, and toward this end directors of photography, through the American Society of Cinematographers, have taken steps to provide the correct type of photography for such films, when

The MART MESSAGE

We proudly present . . .

HALLEN
SYNCHRONOUS MAGNETIC FILM RECORDER

Presenting an absolutely synchronous, gear driven slit 35mm. sprocket magnetic recorder of top quality sound.

For 35mm or 16mm film production and at a remarkable reasonable price.

- 30 to 11,000 cycles + or — 1½ Db.
- 90 feet per minute
- Records on DuPont 35 mm. oxide coated film, slit—or on ¼" tape.

Available for demonstration at our New York showroom.

PRICE $1500.00 FOB Calif.

Exclusive Eastern Distributors.

COLORTRAN CONVERTER

PRESENTING "PACKAGED ILLUMINATION" New revoultionary concept of lighting with 150w. bulbs boosted thru a transformer to high intensity and to 3200°—3400° Kelvin temperature.

COLORTRAN SPOT LIGHT KIT — contains 3 spotlights using 150w. Par 38 bulbs producing more than twice the light of ordinary 750w. spots—Built-in Barndoors, set of snoots, diffusers and bulbs, also 1 broad light, using 2-150w. house bulbs equal intensity to 1000w. broad, bulb, 4 stands, Deluxe Colortran converter, in 2 metal cases. All 4 lights operate on 15 amps. Price **$195.00** plus $25.00 tax.

COLORTRAN GROVER KIT—Contains 2 lights, using 3-150w. Par 38 bulbs—equal to 2000w. spots each. 2 stands and Deluxe Colortran in one case. Both lights operate on 16 amps. Price **$130.00** plus $14.40 tax.

THE CAMERA • MART, INC.

70 WEST 45TH STREET
NEW YORK 19, N. Y.

WORLD-WIDE SERVICE
CABLE ADDRESS: CAMERAMART

WHY are advertisers getting better results in the **AMERICAN CINEMATOGRAPHER?** Because: (1) A. C. has **QUALITY** readership—readers are buyers, or recommend the buying of equipment and materials for making theatrical, educational, business, television or amateur motion pictures. (2) Because A. C. has widest and fastest growing **FOREIGN** circulation! Write for rate card. **AMERICAN CINEMATOGRAPHER, 1782 No. Orange Dr., Hollywood 28, Calif.**

Variable Speed Motor with Tachometer

for CINE SPECIAL CAMERA and MAURER CAMERA

- 115 Volt Universal Motor—AC-DC
- Variable Speed 8-50 Frames
- Separate Base for Cine Special
- Adapter for Maurer Camera

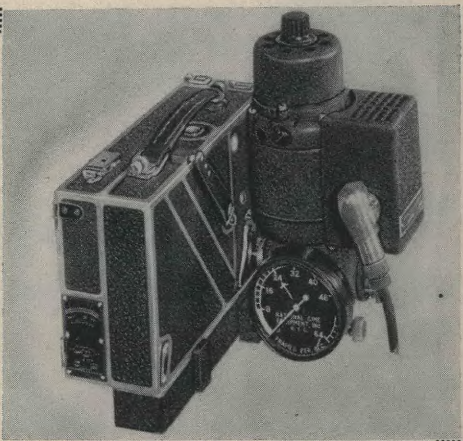
Interchangeable Motors:

12 Volt DC variable Speed 8-50 Frames.
115 Volt AC 60 Cycle, Synchronous Motor, Single Phase.
220 Volt AC 60 Cycle, 3 Phase, Synchronous Motor.

Animation Motors for Cine Special, Maurer and Mitchell Cameras.

Motors for Bolex and Filmo Cameras. Time Lapse Equipment.

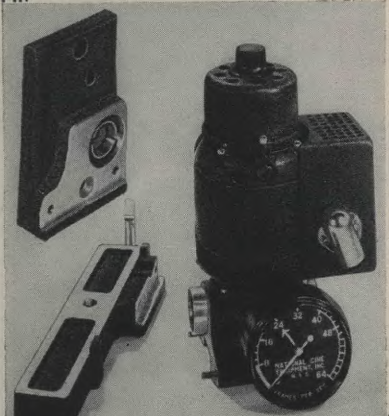
NATIONAL CINE EQUIPMENT, Inc.
20 West 22nd Street, New York 10, N. Y.



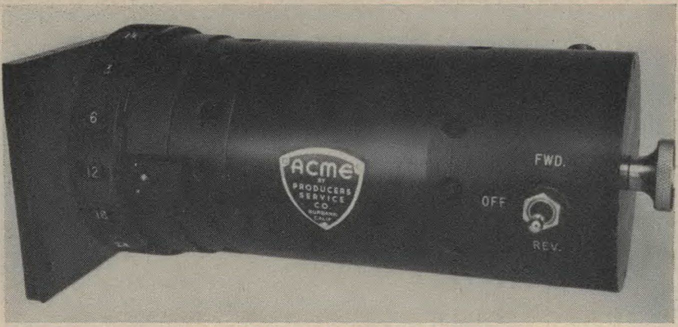
Above: Variable Speed Motor and Tachometer with Cine Special Camera.

Below: Maurer Camera with Variable Speed Motor and Tachometer.

Below: Variable Speed Motor and Tachometer with Cine Special Base and Maurer Adapter.



VARIABLE SPEED SYNCHRONOUS MOTORS



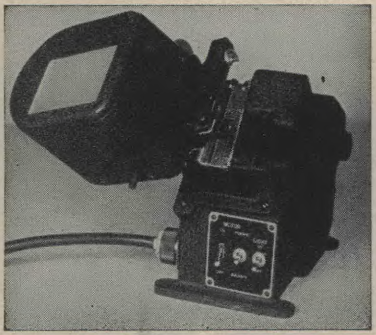
- Delivers steady synchronous speeds at 24, 16, 12, 6, 3 and 1½ f. p. s.
- To change speeds, simply turn dial.
- Furnished with adapter to fit Bell & Howell, Mitchell or Acme Cameras.
- Full power at all speeds.

$425.00

PRODUCER'S SERVICE COMPANY
2815 WEST OLIVE • BURBANK, CALIF.

SALES • SERVICE • RENTALS
—— 35 mm. • 16 mm. ——
CAMERAS·MOVIOLAS·DOLLYS
Complete Line of Equipment for Production Available for Rental
Mitchell: Standard - Hi-Speed - NC - BNC - 16 mm.
Bell & Howell: Standard - Shiftover - Eyemos
Maurer: 16 mm. Cameras
Moviola: Editing Machines - Synchronizers
SPECIALISTS IN ALL TYPES OF CAMERA REPAIR WORK. LENSES MOUNTED

FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY NEW YORK CITY



NEW...16 mm. Moviola

NOW—a professional Moviola for 16mm. production. Made by makers of the 35mm. Moviola. Runs at controlled speed, forward and reverse. Brilliant 2" x 2¾" picture on screen. Write for literature and prices.

MOVIOLA MANUFACTURING CO.
1451 Gordon St. Hollywood 28, Calif.

AKELEY CAMERA, Inc.
175 Varick Street
New York 14, New York

—Established 1914—

Designers and manufacturers of silent and sound motion picture cameras with 225° shutter opening, (288° shutter opening for television use), gyro tripods and precision instruments.

Complete engineering and machine shop facilities for experimental work, model and production runs.

Inquiries Invited

and if called upon to do so. And as candidates for live show television cameramen, members of the A. S. C., given reasonable training in the fundamentals of electronics, are especially qualified by reason of their long and specialized experience in studio set lighting and camera techniques. Both the television and motion picture industries, we are sure, will be glad to know of the forthright and constructive action which the Society is presently undertaking.

NEW LENS TESTING METHOD

(Continued from Page 88)

trace of light on an oscilloscope.

"By using a microscope as a camera lens, the tiniest image detail can be magnified to a size so large as to occupy the whole kinescope screen, or to produce large, accurate traces on the oscilloscope. The light sensitivity of the image orthicon camera tube permits instantaneous observation and measurement of detail response beyond that of the best camera lenses, and even of lower-power microscope objectives.

"The trace on the oscilloscope can be calibrated quickly, easily, and accurately by focusing on the photosurface of the television pickup tube a measured amount of light sufficient to cancel one of the dark lines in the kinescope image.

"A general method has been worked out for measuring and plotting the detail response of lenses, film, and television image devices in the form of curves showing all values of detail response from zero to the limiting resolution, and for various angles and colors of light.

"A simple method is also provided for finding the overall response of systems in which several imaging processes occur, such as a motion picture process involving camera lens, film, and projection lens, or an even more complicated television process where a scene may be picked up by a camera lens, transformed into an electrical image by a television picture tube, limited in resolution by an electrical channel, reconstructed as an optical image by a kinescope, and projected by an optical lens to a viewing screen."

CINEMATOGRAPHER'S PLACE IN TELEVISION

(Continued from Page 87)

been a newsreel cameraman and photographer of commercial films when I decided to get into television. Filming football games with a newsreel camera had been my forte, so it was natural that I should be interested in watching the local

(Continued on Page 104)

off the KINESCOPE *tube...*

LEW O'CONNELL, A.S.C. after thoroughly exploring the "one-minute" commercial field, is producing a series of spot announcement films for a Los Angeles dog food manufacturer. Enterprise is O'Connell's own in which he produces the films completely, photographing, editing, titling them as well as recording the sound for same.

★

KLAC-TV will install kinescope recording equipment this month, to be readied for regular operation beginning April 1st.

★

COL. NATHAN LEVINSON, of Warner Brothers, is developing improved type of mobile kinescope unit that will have special shock absorbing equipment, enabling unit to be transported anywhere. Equipment will enable station to record daytime events on the spot for delayed telecast in the evening.

★

TELEVISION will give the motion picture industry its greatest impetus since the advent of sound said Spyros Skouras recently, citing that theatre TV is inevitable.

★

KINESCOPE recording equipment was installed early in February in NBC's television station KNBH in Hollywood. The equipment will make it possible for station to record on film the programs presented by KNBH for later presentation by other NBC stations.

★

BELL TELEPHONE'S base rate for a television channel between two cities is reported at $35.00 per month per airline mile for eight consecutive hours per day. Charge for station connections in each city are $500 per month per station.

★

FEATURE FILMS MADE IN future primarily for television, says Samuel Goldwyn, will differ chiefly in technique variation. There will be greater emphasis on story values, a return to lustier, broader type of acting, pacing will be more rapid and running time will be limited to one hour.

★

PHILADELPHIA is reported first city to place censorship restrictions on all motion pictures for television in that city. Regulation is being fought by local TV stations.

★

A PORTABLE TELEVISION screen has been developed that can be detached from the set and carried into another room.

PRINTS FOR TELEVISION

35mm • 16mm

A continuing program of research has enabled us to provide the television industry with the best prints for TV film programs, assuring highest quality picture reception

Exhaustive tests have provided our engineers with data on film densities best suited to the peculiar needs of the TV pickup tube.

Insure the success of your TV films by having them developed and printed by the laboratory that has consistently served the motion picture industry for the past thirty years.

CONSOLIDATED FILM INDUSTRIES

A Division of Republic Pictures, Inc.

Romaine & Seward Sts. Hollywood, California

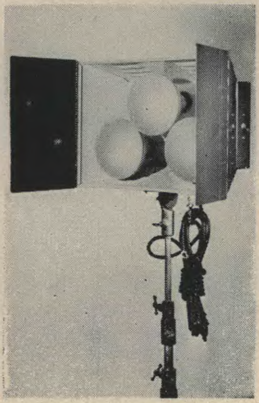
If you are associated

with the production of MOTION PICTURE, TELEVISION, or 16MM. FILMS, reading THE AMERICAN CINEMATOGRAPHER every month is a "must." In no other publication will you find so much pertinent news, so much helpful information, nor technical discussions as appear in each issue of THE AMERICAN CINEMATOGRAPHER.

SUBSCRIBE TODAY: 12 issues $3.00 per year; foreign $4.00

AMERICAN CINEMATOGRAPHER • 1782 No. Orange Drive, Hollywood 28, Calif.

ECONOMY LIGHTING FOR TELEVISION



FOR REMOTE SHOWS

Color-Tran lighting is preferred for its portability, economy, cool performance. Used by KLAC-TV, KFI-TV and others. Spots give double intensity, use less current than old-style lights; Grover floods equivalent to 2000 watts at 8 amps. Compact, easy to carry on truck.

FOR TV FILM PRODUCTION

Color-Tran lights afford low cost, high efficiency lighting for location or studio production. Used by most Hollywood studios. No generators necessary. Use regular 110-v current. Kits consist of 3 Color-Tran spots, 1 Grover light, Color-Tran converter, 4 stands, lamps and 2 snoots—in 2 carrying cases.

For details or demonstration
Write or Phone

Color-Tran Converter Company

7333 Santa Monica Blvd., Hollywood 46, Calif. **Phone: GRanite 4461**

BOOKS you'll want to read...

Electron-optics, *by Paul Hatschek. American Photographic Publishing Co., $3.50.*

When this book was written in 1935-36, electron-optics was in its infancy, although it had already made it possible to build a number of remarkable devices, such as for example the kinescope tubes for television, etc. The author's purpose was to present fundamentals of this science in a simplified form so its mysteries could be revealed to a wide audience of readers who had no previous acquaintance with the subject. The book is a must for students of television. In short it is a textbook of the fundamentals of electronics written in plain language. Its 180 pages are profusely illustrated with photos and understandable diagrams.

•

Photographic Emulsion Technique, *by T. Thorne Baker, F.R.P.S. American Photographic Publishing Co., Boston. $7.50.*

This book covers the full gamut of science and production of photographic emulsions and deals with the subject from the beginning to present day methods and experiments. The book is intended not only as a guide for practical emulsion making, but as a textbook for technical students, industrial chemists, and photographers generally who may wish, for some special reason, to prepare photographic emulsions of a special type to suit their needs. Generously illustrated, the book's 340 pages will provide a valuable fund of knowledge and data for both amateur and professional, as well as the scientist.

•

Films In Business and Industry, *by Henry Clay Gipson. McGraw-Hill Book Co., $4.00.*

This book is a timely guide to modern practices in the use and production of non-theatrical motion pictures and slidefilms. Generously illustrated and containing many case histories, the volume discusses the various ways in which films can be profitably applied to business, personnel training, advertising of products and services, promoting safety campaigns, etc. To anyone contemplating the production of such films, it gives valuable and helpful guidance.

The special sections devoted to the use of films in television and related fields, make the book of unusual interest to those engaged in television film production.

•

Better Color Movies, *by Fred Bond. Camera Craft Publishing Co., $5.00.*

The author of the now famous "Westward How," comprehensive photographic guide to the West, now brings the color movie enthusiast the benefit of his years of study and experience in working exclusively with color; beginning with color movies more than fifteen years ago when Kodachrome film was first introduced. The book is devoted to all the more common problems of the amateur movie maker. Its 156 pages is abundantly illustrated with both black and white and color photos and helpful charts. It deals with color cinematography and lighting, both indoors and out; the calculation of exposure; night photography; color continuity, etc. A real must for every cinematographer, professional as well as amateur.

•

British Film Industry Year Book, *edited by John Sullivan. Film Press, Ltd., London, England.* An unusually comprehensive information volume which includes such data as British feature films completed in 1947; British studios and personnel; text of workers' contract agreements; roster of actors and actresses; alphabetical listing of technicians, etc. Listings of players and personnel includes recent credits.

•

Principles of Stereoscopy, *by Herbert C. McCay. American Photographic Publishing Co., $5.00.*

The author, a popular writer on many photographic subjects, from years of experience tells enough of the theory to give a complete grasp of the principles involved. He then proceeds to give detailed directions for each of the steps required to make successful stereograms. The book's 190 pages are amply illustrated with pictures and diagrams. Its 19 chapters cover every phase of the art from elementary stereography to practical stereo technique, and goes on to cover special proceses and applications.

Writer McKay knows his subject well and has covered it fully and comprehensively. His aim was to give the beginner guidance which will enable him to derive utmost benefit from the art; and he has succeeded well.

---

grid games on television. The camera work on the first game I chanced to see on a television receiver convinced me there was opportunity for an experienced newsreel man to improve the quality of TV coverage of grid games, so I decided to look into it. I applied for the job at KLAC-TV in Hollywood, was accepted, and after a brief schooling in the electronics phase of television camera work, was sent out to cover one of the west's important football games without ever having photographed with a TV camera.

One of the excellent features of a TV camera that a cinematographer notices first is the electronic viewfinder, which enables him to see the scene exactly as it is picked by his camera lens. This is directly in back of the camera and with the studio RCA cameras the hood is hinged so that the finder may easily be used with the camera set at various heights. The camera has a rotary four-lens turret and usually comes equipped with three Ektar lenses of various focal lengths, ranging from 50mm. to 135mm. The turret is rotated by turning a knob at back of the camera. The lenses are focused by operating a lever on the side of the camera that moves the pickup tube toward or away from the camera lens. Of course, there is a preliminary focusing of the lens that takes place before shooting begins and with some cameras the lens diaphragms are locked in position, once the desired stop is established.

Once the TV camera is on the air, it remains on during the entire interval of the broadcast. This means the cameraman is operating the camera every minute. The director of the program relays his instructions to the cameraman by intercom and there is a red light that glows inside the viewfinder to indicate when the camera is cut into the main channel and its pickup is actually going out on the air—this, where two or more cameras are focused on a scene or remote event such as a football game. Back in the control room, the results of the TV cameras are channeled to their respective monitors. Here the electronics engineer or program director watches each monitor and intercuts the various camera pickups to provide an interplay of camera angles from long shot to closeup, as the script or his judgment demands.

Obviously it is impossible for the TV cameraman to follow a script or cue sheet, so the program director does it for him, sending instructions for changing camera angle or lens over the intercom.

My most interesting remote assignment was photographing the USC-Notre Dame football game last year at the Los Angeles Coliseum, with KLAC's television cameraman Arch Griffin on the other camera. There are always two or more cameras photographing a television event, indoors or out. The important thing the

TV cameraman must develop is the ability to work smoothly with his teammate; to know his technique, how he thinks and to anticipate not only his next move but that of the program director. In no other field of photography is this so important. Smooth teamwork is a prime requisite.

In the matter of lighting studio broadcasts, I think that KLAC-TV is the first to thoroughly explore the application of motion picture lighting techniques. Working closely with lighting technicians in the motion picture industry, they have engaged one of Hollywood's top flight lighting engineers. Typical motion picture studio lighting equipment has been brought in, along with dimmer banks and other lighting controls, and for the first time in the history of West Coast television, KLAC-TV is giving its audiences real motion picture lighting on its live broadcasts.

One important motion picture technique we hope to develop more thoroughly here is the "reverse shot," in which one TV camera virtually shoots against the other, with one camera concealed behind a screen or flat with a camouflaged opening for the lens. This innovation—for television, at least—was introduced recently by one New York TV station and only proves again that there are many cinematic techniques which also are suitable for TV photography, and will be introduced as more and more cinematographers come into television either as cameraman or as consultants.

The qualities necessary for a good television cameraman are many, but I think the most important are: that he be as nimble as a cat, have the memory of an elephant, and the ability to anticipate action like a mongoose. The successful television cameraman will be a new breed, combining these physical characteristics with a wide knowledge or experience in motion picture photography, a keen ear for sound, and, if possible, some electronics experience. Moreover, I believe that many of television's directors of the future are to be found within the ranks of Hollywoods cinematographers who are especially qualified for the job by virtue of their specialized training in motion picture production.

I recall a prophetic incident that occurred to me several years ago when I was a motion picture cameraman in the army. I had met David Sarnoff by chance and we got to talking about cinematography and its relation to the future of television. Mr. Sarnoff said that every motion picture cameraman should look forward to the advent of commercial television and advised me to get into it. I didn't realize at the time the significance of his words; but here I am today, working behind a television camera. And I think that shortly we shall see other cinematographers filling a similar role.

C. ROSS

FOR

LIGHTING EQUIPMENT

Inkie and Arc Lamps including Required Accessories
Generators—Cables—Boards—Boxes

•

Raby Camera Crane—Dollies—Blimps—Geared Heads

•

GRIP EQUIPMENT

FOR LOCATION AND STUDIO
Parallels—Steps—Platform Ladders
Century Stands—Reflectors—Flags—Scrims

•

SOLE EASTERN MOLE-RICHARDSON CO. DISTRIBUTOR
RENTALS • SALES • SERVICE

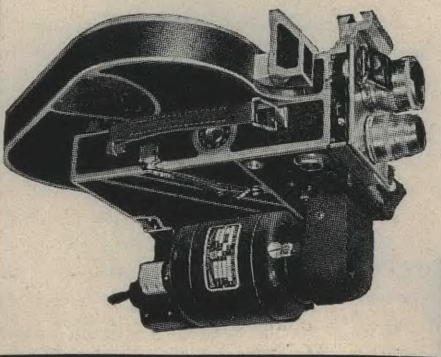
•

CHARLES ROSS, Inc.
333 WEST 52nd STREET
NEW YORK 19, N.Y. Circle 6-5470-1

SYNCHRONOUS MOTOR DRIVE

for the

E. K. Cine Special



110 Volt A. C., Single Phase, 60 Cycle

This motor will run in synchronization with either 16mm. or 35mm. sound recorders. It is provided with mounting platform which permits removal of magazine while camera remains mounted on motor.

Drive coupling attaches to single-frame shaft of camera and is mated to spring-steel drive arm of motor gear box. This assures that camera mechanism cannot be damaged if a film jam occurs as the spring steel arm drive will shear. This is easily replaced.

A knurled knob on motor armature permits rotating for threading. "On-Off" switch built into base. Platform base threaded for 1/4" and 3/8" camera tie-down screws. Rubber covered cable with plugs included.

Price $150 . . . Immediate Delivery

FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY NEW YORK CITY

BLACK AND WHITE • KODACHROME
ENLARGED 8 to 16 REDUCED 16 to 8
DUPLICATES
GEO. W. COLBURN LABORATORY, Inc.
164 N. Wacker Dr., Dept. A, Chicago 6, Ill.

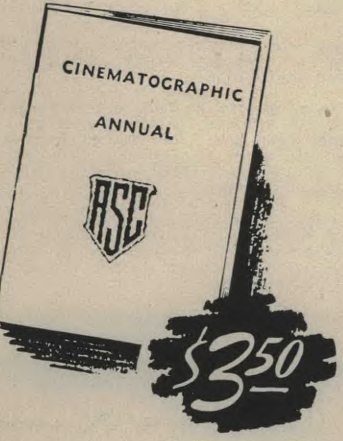
UHLER CUSTOM BUILT Cine MACHINERY DETROIT U.S.A.
MOTION PICTURE
16MM PRINTERS 8MM
CONTINUOUS-STEP-REDUCTION
SEND FOR DESCRIPTIVE LITERATURE
UHLER Cine Machine Co.
16519 WASHBURN AVE. DETROIT 21, MICH

2 IMPORTANT BOOKS

For Every Movie Maker, Amateur Or Professional

Source of QUICK ANSWERS to such questions as: "What is the angle of view of my 25mm. lens?" "What's the depth of focus of my 50mm. lens at 12 feet?" "How much film will a 30 second take consume at 24 f.p.s.?" "What's the Weston daylight rating of Ansco Ultra-Pan negative?" "What stop shall I use to shoot at 8 f.p.s. if exposure at 16 f.p.s. is f/4.5?" And thousands more! A handbook that's a must for every motion picture cameraman, professional or amateur.

Price **$5.00** Postpaid



Rare! Published in 1930, limited number of original editions availabe! Written by top technicians in the motion picture industry, book includes chapters on timely subjects ranging from Optical science of cinematography to color photography, lighting, sound recording, etc. Printed on fine coated paper; hundreds of illustrations; bound in blue leatherette.

Special price **$3.50** Postpaid

American Society Of Cinematographers
1782 No. Orange Dr., Hollywood 28, Calif.

FIRELIGHT THAT'S REAL

(Continued from Page 84)

of an array of twenty-four 1000- or 2000-watt lamps suspended at various heights before a curved metal reflector, about three by four feet in size. Each of the lamps is made to flicker off and on at intervals by the flasher, which is similar in principle to an electric sign flasher. A multi-wire cable extends from the flasher to the reflector and feeds the lamps.

Figure 3. shows a top view of the flasher. In the immediate foreground is the revolving cylinder with twenty-four contact points which touch the cylinder and excite 24 solenoids which in turn send current momentarily to the lamps. The order, frequency and duration of light flashes is governed by the area of the cylinder left exposed to each of the contact points. This can be altered as required, depending on the type of firelight desired. And there are quite a number of variations, as Gregg Toland found out after considerable study and observation of fires of various types.

As the cylinder rotates, the points are made to break, causing the momentary flash of the various lamps. Because the unit can be varied in frequency, speed and intensity, any type of firelight can be simulated by the turn of a dial, and the lights themselves dimmed or brightened for any lens opening. In "Wuthering Heights" the unit was employed to create the illusion of light from the huge log fireplaces in the Georgian interiors, and for "Enchantment" the steadier and softer illumination of an English coal-grate. For "Roseanna McCoy," the mechanism is adjusted to imitate the pine-knot fires so popular in the Kentucky mountains.

The circuits leading to the lamps are first sent through a dimmer bank, which permits lowering or raising the intensity of the flashing lamps. Other means are used to vary the effect such as altering the interval of flash, altering the location of the flash from first one side of the reflector then the other, and also the bank of lamps is often divided into two alternating levels of light intensity to give further realism to the firelight flicker.

Where the effect of firelight only is desired on the set, that is—where the fireplace or fire does not actually appear in the scene—the light from the large multiple-lamped reflectors is usually cast into the scene from off stage, upon the background or perhaps upon the player's faces. Frequently a mirror is used to reflect this light into certain parts of the set.

The frequency and intensity of flicker may also be varied to suit the dramatic situation. Thus the right firelight can heighten the effect for intensely dramatic shots, or it may be subdued—the contrast between shadows and light lessened—for a more somber mood, a slower pace.

We saw another version of this lighting gadget in use on the "Roseanna McCoy" cabin set on the Goldwyn sound stage. In this instance the camera faced the fireplace; so the flasher-lamps—much smaller this time—were carefully hidden among the prop coals in the fireplace grate—and their effect augmented by real flame fed by jets of gas.

Sometime later, in the projection room, we saw the photographic result of the shots made on this set. It was not difficult for anyone who has experienced repose beside a warm, dancing fire at dusk to appreciate the realism which Garmes injected into those scenes. And we are sure that Gregg Toland, too, would have been happy with the result.

SYNCHRONIZED SOUND FOR HOME MOVIES

(Continued from Page 91)

fects where needed, etc. Notes made at the time the film is shot will help put the sounds where they belong. Backgrounds and sound effects may be obtained from regular disc type records.

A complete package is being offered in Sears, Roebuck and Co. mail order and retail stores which contains the required accessories to synchronize any silent projector to a Silvertone wire recorder. This package also contains four 12 inch vinyl sound effects records, an illustrated instruction booklet and a convenient storage album. It sells for $14.95 in Sears' retail stores and $13.95 plus postage by mail order.

While primarily developed for use with Sears Roebuck's Silvertone wire recorder, it can also be used with any other make wire recorder which winds the wire in a slot in the rim of the turntable and has a turntable speed of 78 R.P.M. (same speed as for playing standard disc records).

To make sound movies by this method you need a projector, a wire recorder, and a synchronizing kit. Set up the projector and screen in the usual manner. Place the wire recorder to the right or left of the projector, depending upon whether you are right or left handed.

The kit contains two mirrors and brackets. One is placed at a corner of the screen in such a way as to pick up some of the light projected onto the screen. It has a clamp for screens having a square cross piece at the top. With some screens it may be necessary to notch the cross piece, or drill a small hole to provide a good attachment of this mirror. Adjust the mirror to reffect light from the screen back to the recorder. The second mirror is then set in a screw-in fitting located near the recorder turntable.

Place the synchronizing disc on the recorder turntable. With the projector running adjust the mirror on the screen to reffect light to the mirror on the recorder. Adjust the mirror on the recorder so it reflects this light onto the stroboscope disc. There are two sides to the disc, A and B. Both sides are calibrated for projectors operating at 16 frames per second, but inasmuch as all projectors do not have the same type shutters—some are two-blade, some three-blade, etc—the disc has a stroboscope on both sides. The segments on one side are calibrated for projectors having a shutter providing 1 or 3 interruptions per frame, while those on the opposite side are calibrated for use with projectors giving a 2 or 4 interruption shutter action. Unless you know the type shutter on your projector, it will be necessary for you to first make a test run with the stroboscope disc in place, in order to determine which side is to be used.

To do this, place the disc on the recorder turntable, with or without the recording wire threaded for use, then start projector and recorder and adjust mirrors until the reflected light is seen falling on the stroboscope disc. Adjust the projector speed control until the white lines or segments in the stroboscope disc appear to remain fixed. If, despite adjustment of the projector speed control, the segments cannot be made to appear motionless but tend to travel to the right or to the left, then turn the disc over and repeat the speed adjustment. One side or the other will be found to be correct, and when you determine which side is the one to use with your projector, mark it plainly for future reference.

Assuming that the film has been edited, the leader "cued," and a script prepared, thread the projector, load the wire recorder and make ready to record. Check mirrors again for focusing. Have the script, helpers, 'sound effects man' and others participating, ready.

Start the projector and watch for the three dots to flash on the screen. When the 'Go' flash appears, start the recorder and quickly adjust the speed control on the projector until the strobo disc segments appear to stand still, same as when you made the check above. Start the sound part as soon as the recorder starts and avoid dead spots. Then go right ahead with the script.

When you are through, rewind both wire and film. Then reload recorder, and rethread the projector. Start the projector, watch those 'cues,' start the recorder on playback, and bring the projector into synchronism as before. Then sit back and watch how those silent films come to life. The participants will get a bang out of it too. If you secure good sound results on the first try—fine. If not, just do it over. You can reuse recording wire indefinitely and when a recording is made, whatever is on the wire may be automatically erased, so it's no problem to do it over. In fact you will end up by doing it anyway because you will invariably see improvements that you can make. The wire required for each film can be cut off the main spool and wound on a spare so it may be kept with the reel of film.

Once you try this new, easy method of recording sound, the usual run of silent films will seem dull by comparison. The use of the wire recorder in this manner is practical and economical, especially since the wire can be reused without loss. The wire recorder also has an advantage over other types of recording because it will record or playback for as long as one hour without interruption.

AMATEUR WITH PROFESSIONAL IDEAS

(Continued from Page 92)

ally scouts around among his neighbors and friends for players, casting his characters according to their personalities and appearance, or their ability to furnish some particular, hard-to-find costume or props. Nobody gets paid for acting and Maker already has established quite a stable of "stock" players, whom he can usually call upon to portray featured roles in his pictures. These include an artist, an Oakland newspaperman, a special police officer, a dress shop owner, a Berkeley, Calif., mailman, and two housewives whose acting abilities may someday attract the roving eye of a Hollywood talent scout.

What makes movie making so appealing to Maker is that every picture supplies an outlet for his wide range of talents. He wouldn't be satisfied merely to set up, focus and shoot his camera; he wants the fun of not only writing the story, but of personally scouting all exterior locations, selecting wardrobe and costumes and of personally building any props he is unable to locate already made. *(Cont'd on Pg. 108)*

LOW PRINT COST

. . . figures down to how many play-days you realize from a print. The way to insure longer playing life is to have all your prints treated with

PEERLESS
FILM TREATMENT

To forestall damage, have your prints treated where they are made. However, if Peerless Film Treatment is not available at your laboratory, write us for a list of laboratories showing where you can most conveniently have your film treated. And, when writing, be sure to ask for your copy of . . .

"20 QUESTIONS"

This is an interesting, informative booklet that tells you all about Peerless Film Treatment . . . the proven vapor-in-vacuum process that toughens the emulsion, makes it oil resistant, scratch resistant, wear resistant.

PEERLESS
FILM PROCESSING CORP.
165 W. 46th St., New York 19, N.Y.

RUBY CAMERA EXCHANGE

Rents . . Sells . . Exchanges

•

Everything You Need for the

PRODUCTION & PROJECTION

of Motion Pictures Provided
by a Veteran Organization
of Specialists

35 mm. . . . . . . 16 mm.
Television

IN BUSINESS SINCE 1910

729 Seventh Ave., New York City
Cable Address: RUBYCAM

DIRECT 16MM SOUND
with MAURER RECORDING SYSTEM

For the Producer of 16mm. Business, Educational and Religious Films.

- Edge Numbered Work Prints
- Sound Recording
- Duplicate Negatives
- Synchronized Studio Photography
- Release Prints—Color and B&W

GEO. W. COLBURN LABORATORY, Inc.
164 N. Wacker Dr., Dept. A . Chicago 6, Ill.

The highlight of "Dark Timber," his latest film, of course, was the project of making the miniature logging train and of staging the several sequences in miniature, including the hazardous scene in which the train is blown up while traveling over a wooden trestle. Maker constructed a scale working model of the old Shay engine in his garage, along with a number of flat cars. The gears from four egg beaters served as part of the engine mechanism.

A small railroad trestle and tracks were built in a rock quarry in the hills behind Oakland, and carefully blended in with the terrain so they would appear full size running through regular size mountain country. Behind the engine came flat cars loaded with fake logs, made from tree limbs appropriately cut and scarred. At the quarry rim, another trestle had been built for the explosion scene. It was here that the villian of the story was to dynamite the tracks and blow up the opposition's train as it tried to move out its logs. A mouse trap tripped just before the explosion, catapulated a miniature figure of the villian from the engine cab in convincing fashion.

Maker says there was pretty close to $10,000 worth of equipment at the scene when the explosion sequence was filmed. Extras doubled as firemen, when not before the camera, and stood around with water buckets in the event of fire. Two pounds of black powder was discharged electrically as the brave engine chugged along the trestle. Maker was on the quarry floor shooting up with a telephoto lens as the tracks blew up and the train plunged into the canyon below, looking pretty much as it would in real life. The shot was perfect. It had to be. There was only one miniature train and Maker could hardly be expected to have a double on hand, just in case things went wrong.

Maker shot the entire picture using his Auricon single system sound camera, for which he has built a special blimp. Later he dubbed in sound and background music supplied by Maker's Studios' own amateur musicians playing together as an orchestra.

Maker estimates it takes about four months to shoot one of his photoplay films and that the cost averages about $400.00 per picture. He is reimbursed for this by renting his films out to clubs and lodges at a straight $15.00 fee. With this small return, he buys more film and makes more pictures.

Among Maker's outstanding productions are such titles as : "Lem The Specialist," a Chic Sale type of comedy; "Six Gun Saga"; "The Death Ray," a gruesome thing Maker finally had to restrict; "West of the Brazos," "Call of The Mounties" and "The Devil's Kitchen." This last one satisfied that urge in Maker that might have made him a Robert Montgomery or Orson Welles. It was the story of a journey to hell—tops artistically, but hard on the audience.

"Dark Timber," sneak previewed in Oakland recently, is currently undergoing some revision and re-takes. Maker hopes to bring it to Hollywood for its premiere showing sometime in April.

BULLETIN BOARD

(Continued from Page 76)

WILLIAM SNYDER, A. S. C., was unintentionally omitted from the list of Academy Award nominees which appeared on page 42 of our February issue. Snyder photographed Columbia's Technicolor production "The Loves Of Carmen" which is among the final four contenders in the color division for a cinematographic achievement award in that division.

Also omitted in the February listing were the names of William V. Skall, A.S.C. and Winton Hoch, A.S.C. who should have been listed along with Joseph Valentine, A.S.C., as co-photographers of "Joan Of Arc," also a nominee for an Academy Award for color photography.

●

MITCHELL CAMERA'S public relations man, Rudy Stolz, has pointed out an error in our story last month, describing a cameraman's use of twin-Mitchell '16' cameras in filming the Rose Bowl game, citing it was a Mitchell tripod that was used with the camera, not a 'Professional Jr.'

●

LEN ROOS, A.S.C., is taking his Hallen magnetic recorder to New York where it will be demonstrated before Eastern TV and film producers at the Barbazon-Plaza hotel March 8th.

●

JANUARY-FEBRUARY issue of DuPont's house magazine "Better Living," features a two page picture spread pointing up the important film productions made during past 20 years on which DuPont film was used exclusively. Each of the 20 productions was photographed by a member of the A.S.C.

●

RECENT HOLLYWOOD visitors include Jack Draper, of Mexico City, and Jack Coote, noted color expert of England. Draper is undertaking a 16mm. production in Mexico. Coote, with his associates, are developing a new color process for use by English studios.

CURRENT ASSIGNMENTS OF A. S. C. MEMBERS

(Continued from Page 78)

Paramount (Cont'd)

• LEO TOVER, "My Friend Irma," (Hal Wallis Prodn.) with Marie Wilson, John Lund, Diana Lynn, and Don DeFore. George Marshall, director.

20th Century-Fox

• RUSSELL HARLAN, "I Was A Male War Bride," with Cary Grant, Ann Sheridan, William Chellee. Howard Hawks, director.

• JOSEPH LASHELLE, "Come To The Stable," with Loretta Young, Celeste Holm and Elsa Lanchester. Henry Koster, director.

• MILTON KRASNER, "East Side Story," (title later changed to "House Of Strangers") with Richard Conte, Susan Hayward and Edward G. Robinson. Joseph Mankiewicz, director.

• HARRY JACKSON, "Oh You Beautiful Doll," (Technicolor) with Mark Stevens, June Haver, Gale Robbins, S. Z. Sakall and Charlotte Greenwood. John Stahl, director.

• JOSEPH LASHELLE, "Everybody Does It," with Linda Darnell, Celeste Holm, Paul Douglas and Charles Coburn. Edmound Goulding, director.

United Artists

• LIONEL LINDON, "Twilight," (Strand Prodn.) with Laraine Day, Dane Clark, Franchot Tone and Agnes Moorhead. Irving Pichel, director.

Universal-International

• FRANK PLANER, "Take One False Step," with William Powell, Shelly Winters and Marsha Hunt. Chester Erskine, director.

• WILLIAM DANIELS, "The Western Story," with Yvonne DeCarlo, Charles Coburn, Scott Brady and John Russell. Frederick de Cordova, director.

• RUSSELL METTY, "Curtain Call At Cactus Creek," with Donald O'Connor, Eve Arden, Vincent Price, Gale Storm and Walter Brennan. Charles Lamont, director.

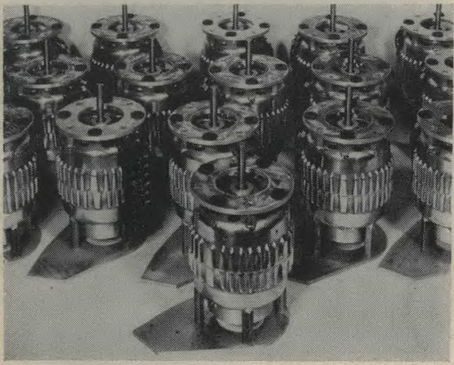
• IRVING GLASSBERG, "Sword In The Desert," with Marta Toren, Stephen McNally and Paul Christian. George Sherman, director.

WHAT'S NEW

in equipment, accessories, service

B&H's New 8mm. Projector

Bell & Howell Company has announced its new 8mm. "Filmo Regent" projector. Priced at $149.50, the "Regent" has many new features including 400 ft. film capacity, single frame projection, 500-W prealigned lamp, and a 1" f/1.6 lens. New projector operates on AC current only.



Precision-built motors

The Hallen Corp., Burbank, Calif., has installed very latest type precision testing equipment for checking speed of synchronous motors and other parts of the Hallen synchronous magnetic recorders which record magnetically on oxide-coated film 17½mm. in width. Motors, which are of special design, insure absolute constant speed of 90 feet per minute, according to Len Roos, A.S.C., president of the corporation.

Mitchell '16' Reduced

Mitchell Camera Corp., Glendale, California announces that price of the Mitchell '16' professional camera has been reduced several hundred dollars, citing improved production methods as enabling them to pass benefits on to the purchaser.

New S.O.S. Catalog

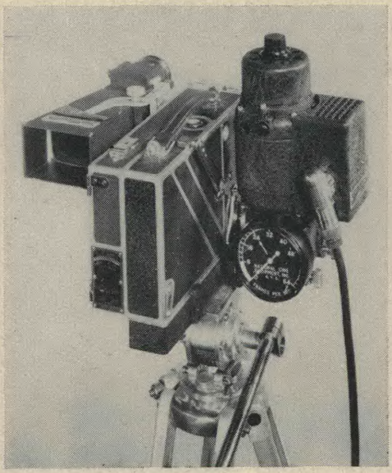
A new 64-page catalog covering every phase of motion picture theatre operation has been issued by S.O.S. Cinema Supply Corp., New York. Over 100 illustrations distributed throughout the book alongside text make it simple to order the wanted part or item. Sections are devoted to equipment for photography, portable and home movies, 16mm. and 35mm. projection, and for stage, studio and recording laboratory needs.

Automatic Dissolve

Joseph Yolo, Hollywood, Calif., announces a new improved model of the Yolo automatic dissolve for Cine Special cameras. Device is more compact, smoother working and may now be attached instantly to any Cine Special camera. Dissolve device enables camera operator to produce smooth fades and more professional-like dissolves automatically with the Cine Special camera.

Matched Lenses

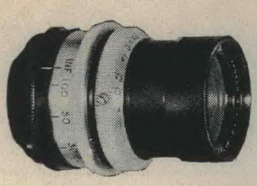
American Bolex Co., New York City, announces a set of matched Kern lenses for the Bolex H-16 (16mm.) motion picture camera. Three lenses—a Kern Switar 1" f/1.4, a Kern Yvar 3" f/2.5 and a Kern Yvar 15mm. f/2.8 are all coated lenses, controlled by precise manufacture and test to insure that pictures made with one lens at a given diaphragm stop will match those made at the same setting with either of the other lenses. A feature of the Switar lens is the ingenious and easy-to-read depth-of-field guage. Focusing scale ranges from 1½ ft. to infinity. All three lenses have "C" mounts for use with other 16mm. cameras.



Vari-speed camera motors

A tachometer for indicating a range of speeds from 8 to 50 f.p.s. is the unique feature of a new variable speed camera motor being marketed by National Cine Equipment Co., New York. Motors may be supplied with bases to fit the Maurer and Cine Special cameras. Motor available in 12-v DC, speed 8-50 frames; 115-v AC, 60 cycle, synchronous, single phase, or 220-v AC 60 cycle, 3 phase, synchronous.

◆



U. S. Pat. No. 2260368

GOERZ AMERICAN
APOGOR
F:2.3

the movie lens with microscopic definition successful cameramen have been waiting for—

A new six element high quality lens for the 16 and 35mm. film camera. Corrected for all aberration at full opening, giving highest definition in black-&-white and color. Made by skilled technicians with many years of optical training.

Fitted to precision focusing mount which moves the lens smoothly without rotating elements or shifting image.

This lens comes in C mount for 16mm. cameras. Fitting to other cameras upon special order.

Sizes available now: 35 and 50mm. uncoated and 75mm. coated.

Write for prices, giving your dealer's name.

The C. P. GOERZ AMERICAN
OPTICAL COMPANY
OFFICE AND FACTORY
317 EAST 34 ST., NEW YORK 16, N. Y.
AC-3

Add SOUND TO YOUR SILENT FILMS
(Music • Narration • Special Effects)

LET us convert your 16 mm picture to a sound film of the highest quality. Skilled technical staff, and finest sound recording equipment and studio facilities to serve industrial, amateur and educational film producers. Write TELEFILM, Inc., Dept. A-11 6039 Hollywood Blvd., Hollywood 28, Calif. for prices and literature.

OUR SERVICE IS USED BY:
- AiResearch Mfg. Co.
- Lockheed Aircraft Corp.
- Douglas Aircraft Co.
- Food Machinery Corp.
- U. S. Naval Photo Services Dept.
- Santa Fe Railroad
- Standard Oil Co. of Calif.

TELEFILM
HOLLYWOOD

THE ONE STOP STORE...

EVERYTHING FOR STUDIO, CUTTING ROOM AND LAB—Lights, Mikes, Booms, Dollies, Lenses, Television Background Projectors, Screens, Moviolas, Recorders, Printers, etc. Send for Catalog Sturelab—new edition under way.

S. O. S. Cinema Supply Corp.
Dept. F, 602 West 52nd St., New York 19

Classified Advertising

RATES: Ten cents per word—minimum ad $1.00. Ads set in all capital letters, 60c per agate line (12 agate lines per inch). No discounts on classified advertising. Send copy to editorial office, 1782 N. Orange Dr., Hollywood 28, California.

FOR SALE

BASS SAYS:

Since 1910 we have been in this happy business of trading and selling cameras and photo apparatus with complete satisfaction to all concerned. A few swell buys . . .

New 1″ Eymax F:4 in Eyemo C mount	$32.50
100mm. Cooke Deep Field Panchro coated F:2.5 in foc. Eyemo C mt. List $487.50....Net	$255.00
Used 6″ Cooke Tele-Kinic F:4.5, foc. C Eyemo mt.	$137.50
Used 16.5 cm. Zeiss Tessar F:4.5 foc. C Eyemo mt.	$87.50
Used 4″ Cinemat F:2.9 foc. C Eyemo Mt	$65.00
Eyemo Model A-4A, fitted with 1″ F:4.5, 2″ F:2.8, 6″ F:4.5, 10″ F:4.5, optical variable finder and case	$575.00
Akeley, complete with Akeley Gyro tripod, 5 mags., matched pair of F:3.5 lenses and 6″ Telephoto	$425.00
Eyemo, single lens, 3 speeds including 24. F:2.5 lens, Case	$225.00
DeVry Automatic 35mm. with F:3.5 lens and case	$87.50

WRITE BASS FIRST

BASS CAMERA CO., 170 W. MADISON ST.,
CHICAGO 2, ILL.

SPECIAL EYEMO CAMERAS—Rebuilt factory inspected magazine and motor adaptation.

EYEMO ASSCESSORIES AND PROFESSIONAL CINE EQUIPMENT, Eyemo Magazines, developing outfits, printers.

CINE LENSES—The world's largest selection of fine cine lenses (Zeiss, Cooke, Astro, Bausch & Lomb, Goerz and many others) available on 15 day trial—High Speed, Wide Angle, Telephoto—In focusing mounts coated to fit—Eyemo, Bell & Howell, Professional, Mitchell 35 and 16, Maurer

FREE CATALOG: Full description and prices. Send this ad to

BURKE & JAMES, Inc.
321 So. Wabash Ave.
Chicago, Ill., U.S.A.

ATTN: A. Caldwell

NOW—HALF PRICE

35MM. INTERMITTENTS—now only $75.00 each—precision machining, excellent design. Perfect for Printers, Animation Cameras, Slide Film Cameras, and for silencing and modernizing motion picture cameras. Double pull-down claws and double registration pins, at aperture. Entire unit in light-tight metal case to accommodate 200-foot roll, complete with take-up. Light trap at aperture.

AFP
1600 BROADWAY - - SUITE 1004
New York 19, N. Y.

WE BUY, SELL AND RENT PROFESSIONAL AND 16mm. EQUIPMENT, NEW AND USED. WE ARE DISTRIBUTORS FOR ALL LEADING MANUFACTURERS. RUBY CAMERA EXCHANGE, 729 Seventh Ave., New York City. Established since 1910.

WE Buy, Sell, Trade Cameras, Projectors, Laboratory and Cutting Room Equipment, 8-16-35-mm. We pay highest prices. Carry one of the most diversified stocks in America. Mogull's Camera & Film Exchange, 68 West 48th Street, New York 19, N. Y.

COMPLETE LINE of amateur and professional cine equipment and lenses. Write for free bulletin. CAMERA MART, INC., 1614 N. Cahunega, Hollywood 28. HEmpstead 7373.

CINE LENSES in focusing "C" mount: 1″ F1.5 Cooke Kinnic, $69.50; 1″ F1.9 Kodak Anastigmat, Cine Special Mount, $59.50; 2″ F3.5 Ektar, coated, $49.50; 3″ F1.9 Dallmeyer Kinematograph, $124.50; 3″ F3 Goerz Hypar, $79.50; 4″ F2.7 Kodak Anastigmat, coated, new, $85.00; 6″ F4.5 Eymax, coated, new $98.00; 360mm. F5.5 Schneider Tele-Xenar, Leitz Mirror Reflex Housing, $350.00. WELLS-SMITH CAMERA COMPANY, 15 East Washington St., Dept. AC-3, Chicago 2, Illinois.

FOR SALE

FOTOSONIC'S SPECIALS

7 SPOTLIGHTS "Baby-kegs," Brand New with barn doors $45.00 each. 1 CINE SPECIAL with f 1.9 25mm. lens, f 2.7 102mm. and f 2.7 63mm. lenses; spare 100′ magazine, masks, filters, telephoto lens-adapter, case and Weston I Exposure meter—excellent condition $695.00. 1 INTERLOCK MOTOR for R-2 Reproducers for Sound Recording System; Brand New $450.00. MANY OTHER items of great interest to photographers, at really low cost. Write to FOTOSONIC, INC., 132 West 43rd Street, New York 18, N.Y.

THEATRE CHAIRS bought and sold. R. Bovilsky, 1061 Lara Street, Los Angeles, Calif.

REAL SACRIFICE. Just bought Brand New Filmsound 179E. Must sell. Bought at $579.00 with accessories worth $20.00. Selling $400.00. Guaranteed 100%. Life-time Guarantee Card still available. ISABEL DZUNG, 631 West 152nd St., New York City.

AURICON MODEL NR20 RECORDER with NR22 wiring (new) complete with amplifier and recorder with 110V AC and 12V battery and rectifier; 16 mm Camera with sync. motor drive and Tripod, Sync. Projector and Film Phonograph, 16″ Transcription Turn-table—78 to 33 1/3 RPM with Pickup Turntable. Pickup and Film Phonograph are matched to Film Recorder. Equipment is in portable carrying cases. Complete $1200.00. The AMERICAN CINEMATOGRAPHER, Box 1054

WANTED

WE PAY CASH FOR EVERYTHING PHOTOGRAPHIC. Write us today. Hollywood Camera Exchange, 1600 Cahuenga Blvd., Hollywood.

MOTION PICTURES WANTED

16mm. Kodachrome for school market. National organization interested completed films or uncut footage with educational value. Only professional material considered. Give full details first letter. Box 1053, AMERICAN CINEMATOGRAPHER

Your classified ad on this page reaches more buying prospects for motion picture photographic equipment and supplies than any other medium.

CLASSIFIED RATES
10 cents a word
Minimum 10 words

Mail Remittance
and Copy to
AMERICAN CINEMATOGRAPHER
1782 N. Orange Drive
Hollywood 28, Calif.

WANTED

WANTED TO BUY FOR CASH

CAMERAS AND ACCESSORIES
MITCHELL, B & H, EYEMO, DEBRIE, AKELEY
ALSO LABORATORY AND CUTTING ROOM EQUIPMENT

CAMERA EQUIPMENT COMPANY
1600 BROADWAY, NEW YORK CITY 19
CABLE: CINEQUIP

CAMERA & SOUND MEN

SERVICE TO PRODUCERS

Camera and sound men, artistically and scientifically skilled, well-equipped **MODERN 1200 Square Feet SOUND STUDIO,** ideally suited for Television work. High-fidelity play-back. Stage set construction.

ROLAB
Sandy Hook Connecticut
90 minutes from New York City
Telephone: Newtown 581
Ask for rates.

FOOTAGE FOR SALE

WEST AROUND CAPE HORN!

FOOTAGE for magnificent 2-reeler for sale. 35mm. B&W negative in perfect condition. The camera-log of last American sailing vessel to round the Horn, featuring the sea-adventures of two children, 6 & 4, with sharks, seals, albatross and some of the wildest weather ever filmed. Shots of the Horn, use of storm oil, etc. **HERE ARE THE MAKINGS OF AN OSCAR WINNER.** $7,500 takes negative and all rights.

Warwick M. Tompkins
1046 W. Edgeware Rd.
Los Angeles 26, Cal.

STUDIO & PRODN. EQUIP.

ZOOMAR A 16MM Lens, Focus 17MM to 106MM, worth $1750.00, Special $1175.00; Belhowell J 16mm Printer, $2750.00; 18′ Microphone Boom $300.00; Stop Watch Timer, $24.75; Cinephone 35mm Recorder, $495.00; Houston 1200′ daylight loading magazines, $97.50; Blimped 35mm Askania Studio Camera, 3 lenses, 4 magazines, synchronous motor, rebuilt, $995.00; Neumade combination 16/35mm Automatic Film Cleaner, $350.00 value, $194.50; Giant Spotlite Tripods 8′ high, $9.95; Belhowell 16 mm Filmscoring Viewers, Gov't cost $300.00, $59.50; Bardwell McAlister 5000W floodlites, $11.75; 1/12HP 110V Synchronous Motors, new, $57.50; Sound Moviolas lowest in years. Send for 1949 Sturelab Catalog. Dept. f—S.O.S. CINEMA SUPPLY CORPORATION, 602 W. 52nd Street, New York 19.

LABORATORY SERVICES

TWO ENLARGEMENTS and negative from your movie film. Send frames and $1.00. Curio-photo, 1187 Jerome Ave., New York 52.

MISCELLANEOUS

A.S.C. "CINEMATOGRAPHIC ANNUAL," published 1930. Limited number copies availabble at $3.50. A collectors' item. A.S.C. Agency, 1782 N. Orange Dr., Hollywood 28, Calif.

Guardian of her most important "bath"...

COSTLY shots like this might be so much spoiled footage... save for the vigilance and knowledge of the laboratory man.

He makes sure that the dailies take *their* all-important bath... inspecting, testing, keeping constant check as the exposed footage runs through the developing, fixing, and washing tanks and driers.

To his skill and watchfulness... as film representing "box-office gold" literally slips through his careful fingers... motion pictures owe much of their well-earned reputation for technical excellence.

This skill is more effective... the burden of constant vigilance lessened... when he works with dependable film of superior quality. That's why he always welcomes the family of Eastman motion picture films.

EASTMAN KODAK COMPANY
ROCHESTER 4, N. Y.

J. E. BRULATOUR, INC., DISTRIBUTORS
FORT LEE • CHICAGO • HOLLYWOOD

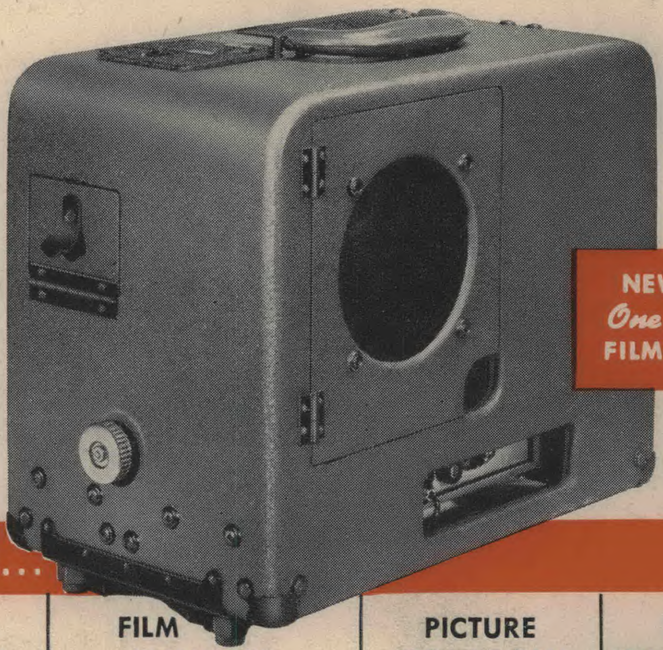
FACT!

SUPERIORITY OF BELL & HOWELL PROJECTORS PROVED CONCLUSIVELY BY THESE STARTLING COMPARATIVE TESTS!

In a dramatic battle of elimination, seven competitive projectors are running continuously . . . 24 hours a day . . . on laboratory test stands.

As machines fail, they are removed, repaired, and replaced in the test. Because of low down time, the B&H FILMOSOUND (right) has passed 300 hours with a tremendous lead over any other machine in the race.

In buying a projector...especially for day-in, day-out use . . . make sure you choose a projector that is performance-tested. Make sure it's a Bell & Howell!



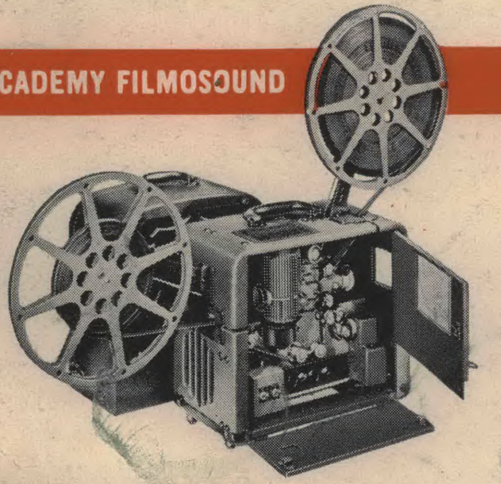
NEW B & H
One-Case ★
FILMOSOUND

HERE'S THE EVIDENCE AFTER 100 HOURS...

PROJECTOR	MACHINE REPAIRED	FILM BROKE	FILM REPLACED	PICTURE STEADINESS	FILM* PROTECTION
BELL & HOWELL	**No**	**No**	**Once (at 80 hrs.)**	**Steady**	**Excellent**
PROJECTOR "A"	Twice (Major)	9 times	4 times	Very Unsteady	Fair**
PROJECTOR "B"	Once (Minor)	16 times	6 times	Steady	Poor
PROJECTOR "C"	Once (Minor)	2 times	Once (at 64 hrs.)	Slightly Unsteady	Fairly Good**
PROJECTOR "D"	Twice (Major)	15 times	7 times	Very Unsteady	Poor**
PROJECTOR "E"	Twice (Major)	6 times	3 times	Unsteady	Fairly Good**
PROJECTOR "F"	Four Times (Major)	27 times	13 times	Very Unsteady	Poor

* *Ratings indicate condition of film relative to scratches and wear.*
** *Indicates machine also deposits oil on film.*

NEW ACADEMY FILMOSOUND



Lightweight, portable. Provides 80-minute show . . . stops for individual still pictures. Reverses instantly. Brilliant 1000-watt lamp. Double the sound output of other lightweight sound projectors. Approved by Underwriters' Laboratories. With 8″, separate speaker, only **$495.**

ALL FILMOS ARE GUARANTEED FOR LIFE! *During life of product, any defects in workmanship or material will be remedied free (except transportation).*

★ ONE-CASE FILMOSOUND (shown above)

Outstanding picture brilliance from 1000-watt lamp. Natural sound from built-in 6″ speaker. Fast rewind, instant reverse. Stops for stills. Approved by Underwriters' Laboratories. An amazing value . . . **$449.**

FOR FULL DETAILS, *write Bell & Howell Company, 7148 McCormick Road, Chicago 45. Branches in New York, Hollywood, and Washington, D. C.*

Precision-Made by

Bell & Howell

Since 1907 the Largest Manufacturer of Professional Motion Picture Equipment for Hollywood and the World